

MERCHANDISING + INSTALLATION + MAINTENANCE



DON'T MISS:

"HE MADE IT THE HARD WAY" . . . the second in a series of "personality portraits" of men who have built successful businesses in the refrigeration field

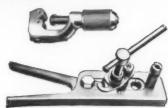


Like a powerful magnet, 'Superior' is proving a real attraction to the many manufacturers and servicemen who demand a better tubing buy.

A definite drawing power in its field, 'Superior' has come to symbolize copper tubing at its best, whether in straight lengths or coils 1" (O.D.) to capillary .093" (O.D.)

A large part of 'Superiors' pull in the tubing market is due to the fact that it is four ways better: is clean and bright, easy bending, seamless and really dry.

After summing up these product advantages, you, too, will want to say 'Superior' when specifications call for the 'tops' in copper tubing. Write Today for full details and colorful literature.



"Superior"

TUBE TOOLS

For Flaring & Cutting New, Different & Better

ORDER YOURS NOW

Write for New Literature

BRASS & COPPER CO.
ERIE, PENNSYLVANIA · Phone 35-111

LYNCH Precision Manufacture Builds Dependable PAR Units



Skilled Workmen...Precision Machines...

the first requisites in the manufacture of quiet, efficient condensing units. Illustrated are a few of the workmen and special purpose machine tools fulfilling these requirements in the production of Par Condensing Units.

Par Units are engineered and manufactured especially for the commercial refrigeration field... in a wide range of models and sizes from 1/6 h.p. close-coupled units up to 5 h.p. heavy duty commercial units. With Par there's a proper-size,

proper-type unit to permit "tailored-installations"—giving balanced performance for top economy and efficiency. Ask your Par wholesaler for details or write direct for Par Catalog R-99.

Par—Condensing Unit Line sold exclusively through Franchised Refrigeration Equipment Wholesalers.

By Comparison - You'll Buy PAR

LYNCH CORPORATION-

Par Compressor Division

TOLEDO 1. OHIO U.S.A.

United's NEW

DRY-KOOL BOTTLE COOLER

4 SIZES (REMOTE OR SELF CONTAINED) 50 in., 6', 8', 10' LENGTHS

United



8 foot bottle cooler

STAINLESS STEEL SLIDE AWAY DOORS OPEN LIKE MAGIC

One quick, easy motion lifts and slides these doors out of sight. Saves time and temper, speeds service.



KUBEMASTER

te and store your own ice os—freeze as much as 2½ hels a day. Space for cool-bottles, trays for gernishes. under standard ber,



KOOLMASTER

irect draw dispenser for mechanical drigeration. Chrome fittings, one lece sink with stainless steel splash seard. 2 and 3 keg sizes remete er alf centained.

ELIMINATES SLIPPERY WET BOTTLES . SPEEDS SERVICE **AVOIDS ACCIDENTS**

Whether the volume is 25 or 2500 bottles an hour United Dry-Kools assure speedier service, cleaner, safer handling and more profitable operation. Easy-opening stainless steel roller bearing slide away doors give ready access to bottles and flush type decapper speeds service. Made in 2, 3, 4, or 5 section sizes, each section has efficient blower for rapid balanced cooling and holds over 195 twelve ounce bottles. Coolers fit under standard bar, are finished in high baked brown Dulux.

> Some territories still open-write or phone

UNITED REFRIGERATOR COMPANY

Sales Division 350 ROBERT STREET ST. PAUL 1, MINNESOTA

AUGUST, 1948

VOLUME 5, NO. 8

۵

THIS MAGAZINE has no official affiliation with ANY group, society or association.

THEODORE T. QUINN Editor

JAMES R. McCALLUM JR. Associate Editor

> WARREN W. FARR H. S. McCLOUD Editorial Advisors

WILLIAM V. LINAS Production Director

E. J. HEXTER Circulation Director

Address all communications to THE REFRIGERATION INDUSTRY

1240 Ontario Street Cleveland 13, Ohio Phone: Prospect 1251 Teletypewriter: CV-233

SALES OFFICES

CLEVELAND 13 1240 Ontario Street L. L. OPPENHEIM

NEW YORK 18 19-25 W. 44th Street Room 412 EDWARD W. HOLLAND

CHICAGO 1 64 E. Lake Street Room 1013 NORMAN J. LOTT SAM R. TRACY

LOS ANGELES 14 1250 Wilshire Boulevard Room 403 FRED W. FRISENFELDT



Published monthly by Refrigeration Published monthly by Refrigeration Publications, Inc., Cleveland, Ohio. Irving B. Hexter, president; Lester P. Ausbach, vice president. An affiliate of Intuition. An affiliate of Intuition of the Intuition of Intuition of

efrigeration

THE COVER . . . Fred Boehme runs one of the most active refrigeration contracting firms in the city of Milwaukee-but he still comes to work in his shirtsleeves and he's never too busy "playing boss" to pitch right in and give the boys a hand. That's part of the reason why THE REFRIGERATION INDUSTRY has nominated him as its "Man of the Month" for August. For the rest of the story, see page 42.

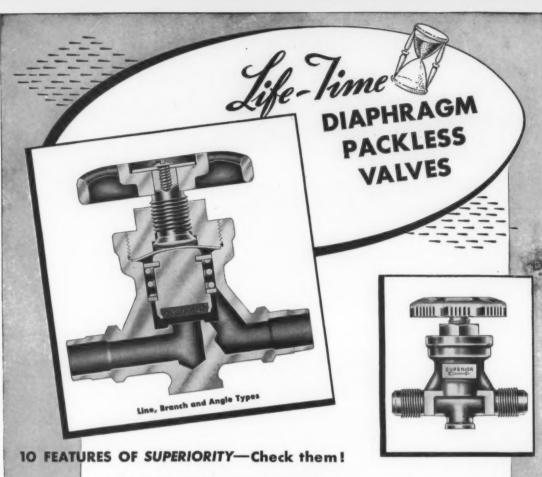
IN THIS ISSUE

FEATURES

CONTESTS SELL SERVICE, TOO
NO "SWEAT SHOP" HERE!
HOW TO MAINTAIN AND REPAIR GATE AND GLOBE VALVES . 35 Part 1 in a series of three articles.
SHOULD CONTRACTORS BE LICENSED?
A side-by-side comparison of the diametrically opposed opinions of the Air Conditioning and Refrigerating Machinery Association and the National Association of Refrigeration Contractors. CONSTANT TEMPERATURE CABINET PRESENTS DESIGN PROBLEMS
A FAMILY AFFAIR
No. 2 in THE REFRIGERATION INDUSTRY'S own private "Hall of Fame" is Fred E. Boehme of Milwaukee. More of these "human interest" stories about men who have built up successful businesses in the field of commercial refrigeration and air conditioning merchandising and maintenance will follow in future issues. Watch for them each month!

DEPARTMENTS

USEFUL LITERATURE	54	NEW PRODUCTS	56
LETTERS	12	OVER THE COUNTER	74
BTU'S	29	HERE'S HOW	77
CONTRACTOR ACTIVITIES	36	neres now	
ABOUT PEOPLE	40	PRACTICAL REFRIGERATION ENGINEERING MANUAL	81
REFRIGERATION INDUSTRY NEWS.	45	OPPORTUNITIES	83
COMMERCIAL REFRIGERATOR SALES NEWS	71	INDEX TO ADVERTISERS	84



- 1—Rugged—pleasing appearance—symmetrical design.
- 2—Wrench pads for individually tightening flare connection.
- 3—Unique solder connections permit soft or silver soldering—without removing internal assembly.
- 4-One-piece, plated lower stem.
- 5—Controlled stem travel assures "Life-time" diaphragm performance.
- 6-Controlled seating results in "Life-time" operation.
- 7—Large bearing surfaces—polished stem heads, and scientific lubrication assure "Life-time" performance of upper stem and diaphragm.
- 8-Unrestricted flow-ease of operation.
- 9—Operates under normal pressure, with flow in opposite direction.
- 10-No special tools required for disassembly or reassembly.

Ask Your Jobber About "Life-time" Packless Valves They're SUPERIOR!



Superior Valve and Fittings Co.



OFFICES IN PRINCIPAL CITIES . STOCKS: CHICAGO (6) . LOS ANGELES (15) . JOBBERS EVERYWHERE

Features that make a "BEST SELLER" of the JAMISON STANDARD COOLER and FREEZER DOOR

Because of its wide range of applications in moderately low temperature operations, the Jamison Cooler and Freezer Door far outsells any other type on the market. Adjustoflex Hinges, Wedgetight Fasteners and Coolerseal Gaskets give you smooth operation and positive closure.

ADJUSTOFLEX HINGE—(See Sketch) combines self-adjustment with spring tension regulation. Spring pressure automatically seats door gasket. A simple turn of adjusting screw alters spring pressure to compensate for gasket wear.

MODEL "W" WEDGETIGHT FASTENER —(See Sketch) is simply designed for extremely easy operation and minimum wear. It takes little effort to pull the outside operating handle which automatically opens the door. Operation of the push rod opens the door from the inside.

On closing, the fastener wedges the door tightly shut without rebound. Once closed, only normal operation of the fastener can open the door. The wedge is bored for use with locking pin and padlock. This Wedgetight Fastener is of modern, streamlined design to harmonize with the Adjustoflex Hinges. There are no protruding parts to catch, bend or break.

COOLERSEAL GASKET—(See Sketch) is applied in two locations to form a positive seal. The outer seal is placed on the back of the door front overlap and seats against the casing. The inner seal is fixed to a rabbet strip securely fastened to the jamb. The door is designed to insure simultaneous seating of both seals, creating a dead air space between seals. The Coolerseal Gasket is made of pure rubber—extremely resilient, durable and waterproof.

Whatever your requirements in Cold Storage Doors, the chances are that you'll find Jamison's standard products in many types and sizes will fit your exact needs. Or if you have an unusual problem, we are well equipped to furnish doors to any specification. Write for catalog and the address of our branch nearest to you. Jamison Cold Storage Door Co., Hagerstown, Maryland.





Pakaged REFRIGERATION

THE NEW ROLD-HOLD Pakage TRUCK UNIT for HIGH TEMPERATURE REFRIGERATION OF PERISHABLES . . .

The New Kold-Hold Pakage Refrigeration
Unit means lower costs . . . added dividends to you. Its simplicity of installation and operation is the highlight of its success wherever high temperature perishables are transported by truck. Check the following features of the New KOLD-HOLD PAKAGE REFRIGERATION UNIT.



Self-contained, adjustable to almost any truck. The Unit can be lowered to 463% for installing through truck door. When installed, height can be adjusted for 57" minimum to 78" maximum heights.



The electrically driven compressor builds up a charge of flint ice in the "Hold-Over" Plates, which provides ample refrigeration over a day's run.

- Operates efficiently, economically in any properly insulated truck, regardless of age.
- Easily installed—simply cut intake and discharge holes, push into place, plug into any 110AC-60 Cycle Circuit*.
- 3. Maintains inside truck temperatures of 45° F. to 50° F. over a full day's run.
- Provides ample refrigeration even in extreme weather conditions.
- Recharging plates at any electrical outlet protects loads on long runs.

- 6. The 1 HP Compressor operates for a few cents a day.
- 7. Dry and odorless—no bother. Dependability at lower cost.
- Kold-Hold "Hold Over" Refrigeration plates such as used in this unit have given satisfactory service for over 15 years.
 - *A 200V-60 Cycle Single Phase motor can be supplied on request.

The Kold-Hold Catalog contains information on the entire line of Kold-Hold Refrigeration Products. Write for your free copy today!





Jobbers in Principal Cities



protects every step of the way



KOLD-HOLD MANUFACTURING COMPANY - 503 E. HAZEL ST., LANSING 4, MICHIGAN

TRANSPORTATIO

NEW KINETIC PLANT

Increases "FREON" Production 60 Per Cent!

General view of the new and thoroughly modern "Freon" plant (top photo). Recently completed . . . it is in operation at East Chicago, Indiana. The structure houses the many highly specialized installations required to produce "Freon" safe refrigerants and propellents.

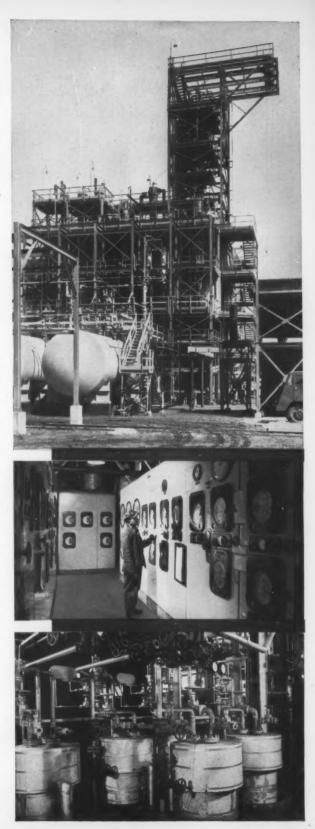
The new plant increases total production of "Freon" approximately 60 per cent. This will make available enough "Freon" to meet steadily growing demands and eliminates any necessity for stock piling by users. Center photo shows a few of the instrument panels which give minute-by-minute control of the precision "Freon" syntheses.

The maze of pipes, valves, tanks and gauges seen in the lower photo is typical of equipment used in making "Freon." Great technical skill and engineering "know how" in production . . . in addition to painstaking laboratory control . . . insure the uniform quality of "Freon."

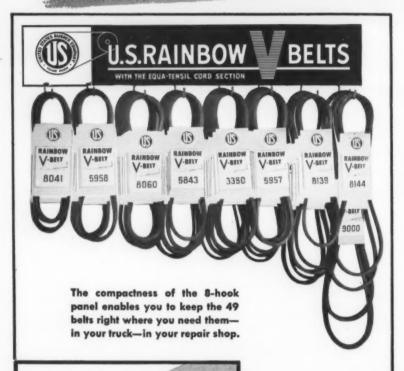
This constant high quality contributes to the long life and satisfactory performance of equipment designed to utilize these superior products. Kinetic Chemicals, Inc., Tenth and Market Streets, Wilmington 98. Delaware.

Empty cylinders in which to ship "Freon" are still urgently needed. Please return empties promptly.





THE 49 V-BELTS IN GREATEST DEMAND



—in a Portable Assortment

Here in one convenient group are all the belts that can handle the majority of emergencies in the Refrigeration field.

These 49 Belts cover service on hundreds of domestic and commercial refrigeration units, ice cream machines, frozen-food plants, air-conditioning systems and other allied equipment. With this compact stock you can be ready with the exact belt needed.

Each belt has that unique U.S. Rubber development which provides greater pull and endurance—the Equa-Tensil Cord Section.

Order from your Jobber, or, for more information write Mechanical Goods Division, United States Rubber Company, 1230 Avenue of the Americas, New York 20, N. Y.

Top Rubber Cushion in closely-engineered balance with the lower section ... to keep cool under constant stretch and turn.

Equa-Tensil Cord Section—all cords scientifically placed, each pulling its share of the load.

A sturdy level cushion for the Equa-Tensil Cord Section. Provides structural firmness for V-grooves and over the flat pulley of V-to-flat drives.

U.S.RUBBER
UNITED STATES
RUBBER COMPANY



SPEEDY, SINGLE NUT CLAMPING

Here is an important new advance in flaring tools . . . a new tool that makes precision S.A.E. flares faster and easier—and makes them without scoring the tubing. Flares the most popular sizes of soft copper, brass and aluminum tubing.

copper, brass and aluminum tubing.

In place of the usual bar it has a die holder with sliding dies for clamping the tubing. Only one thumb screw to tighten—a ball thrust bearing makes it easy to turn.

The extra depth, smooth surface dies hold the tubing tightly without scoring. Freedom from scoring is considered by many engineers to be an important advantage in making longer lasting flare joints.

Yoke is made of forged steel; steel dies are heat treated. Tool is extra strong and durable. See your jobber for full information on this fast working tool and others in the complete Imperial Tubing Tool Line. Ask for Folder 347.

THE IMPERIAL BRASS MFG. CO., 534 S. Racine Avenue, Chicago , Illinois

IMPERIAL

See Wowher

SMOOTH

GRIP WILL NOT

Fittings * Valves * Filters * Driers * Floats * Charging Lines
Tools for Cutting, Flaring, Bending, Pinch-off and Swedging



1. Simply insert tubing between segments of the proper size die block.



2. Swing cam action clamp into position against end die and tighten thumb screw.



3. Slide yoke over end of die holder into position over tubing to be flared, and turn compressor cone down firmly. The result is a precision 45° flare without scoring the tubing

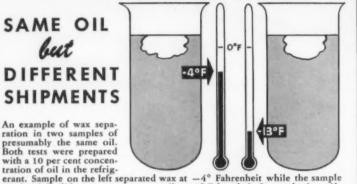
The Ansul Research Staff CONTINUING REPORT ON:

SEPARATION FACTS

SAME OIL heet DIFFERENT SHIPMENTS

An example of wax separation in two samples of presumably the same oil. Both tests were prepared

on the right did not separate wax until -13° Fahrenheit. In purchasing oils for low temperature refrigeration, specify wax separation temperature.



by the Ansul Wax-Oil Separation Method

- The temperature at which wax separates from an oil in oil-refrigerant mixture is influenced by three determining factors:
 - 1. The nature of wax in the oil.
 - 2. The amount of wax in the oil.
 - 3. The amount of oil in the oil-refrigerant mixture.

Different oils possess different wax separation characteristics.

The nature and amount of wax content vary in different oils and may even vary in different samples of supposedly the same oil taken from different ship-

These inconsistencies confuse the engineer in his

efforts to select or recommend suitable lubrication for low temperature refrigerating systems and, to alleviate this condition, Ansul Chemical Co. is ready and anxious, at all times, to co-operate with refrigeration engineers and refrigeration service engineers.

REMEDIES

To eliminate wax trouble in expansion valves and coils:

- 1. Use an oil which separates little or no wax from its mixture with the refrigerant at the operating temperature of the valve.
- 2. Install an oil trap to cut down the amount of oil (and consequent wax) circulating with the refrigerant.



SEND FOR THIS BULLETIN

An informative reprint, "The Separation of Wax from Oil-Refrigerant Mixtures," will be

sent on request. No obligation ... just address ...

*REG. U. S. PAT. OFF.



ANSUL WHOLESALERS are ready and equipped to render an intelligent, co-operative service to refrigeration engineers and maintenance men on problems which arise from time-to-time in the operation of refrigerating systems.

FOR EXAMPLE:

FOR EXAMPLE:
Samples of refrigeration oils, submitted by users of Ansul
Refrigerants to Ansul Wholesalers, are tested by Ansul laboratories without charge by the Ansul Wax Separation Method.
This method, developed and standardized especially for use
in connection with oils used in refrigerating systems, provides
an accurate determination of wax separating from oil-refrigerant mixtures at low temperatures.

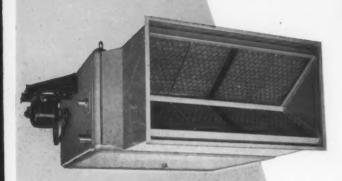
ANSUL REFRIGERANTS ARE AVAILABLE AT LEADING WHOLESALERS EVERYWHERE

MICAL

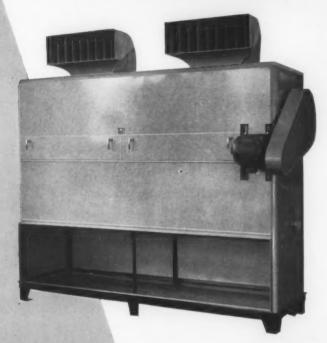
RIGERATION DIVISION, MARINETTE, WISCONSIN

DISTRIBUTORS FOR KINETIC'S "FREON-11," "FREON-12," "FREON-21," "FREON-22," "FREON-113" AND "FREON-114"

Air Conditioning WILL HELP YOU MAKE A



We're talking in units of products and people, of course ... not dollars. But the dollars will do all right, too. Air conditioning pays off ... particularly when you specify these high-capacity, high-efficiency units by BUSH, pioneers in the heat transfer field since 1907. Low speed motors for long, trouble-free service. Low velocity fans for quiet, efficient operation. Expertly engineered and built of top-quality materials to rigid specifications. Designed for easy installation and ready access.





Write DEPT. C2 for the new folder describing BUSH Air Conditioning Units with complete engineering data to help you plan and specify.

BUSH MANUFACTURING CO. . WEST HARTFORD 10, CONN





consistently pure consistently sure



LETTERS

Moisture Data Available

THE REFRIGERATION INDUSTRY:

In the April 1948 issue of The Refriceration Industry there is an article by Charles H. Boylan entitled "Moisture in the Refrigeration System." This article is of considerable interest to us, and we would like to have about four additional copies of it. Can you accommodate us in this mater?—A. R. Purdy, Industrial Division, Socony-Vacuum Oil Co., New York City.

Reprints of this article are available.—Editor.

Locker Query Answered

THE REFRIGERATION INDUSTRY:

We are interested in contacting the manufacturers of the George-Ann frozen food locker. Will you please forward their address?—W. S. Erspamer, Jack Frost Co., Tacoma, Wash.

The address of the manufacturer of the George-Ann frozen food locker is George-Ann Co., 321 Highland Drive, Seattle, Wash. Further information on these units can be obtained by writing to Mr. G. R. Overton at that address.—Editor.

Spanish Issue Suspended

THE REFRIGERATION INDUSTRY:

The purpose of this letter is to ask you to please send us your magazine La Industria de Refriceration y Acondicionamiento de Aire (the Spanish edition of The Refriceration Industry), as we wish to keep up with the latest advances in this field.—Eugenio Portua Fernandez, Servicios Tecnicos de Refrigeracion, Havana, Cuba.

Publication of the Spanish edition of The Refrigeration Industry has been indefinitely suspended.—Editor.

"Splendid Results" Cited

THE REFRIGERATION INDUSTRY:

We would like to express our appreciation for the write-up and subsequent leads which have been furnished us by your publication. We believe that this response is indicative of the splendid results of advertising.—J. H. Shaw, sales manager, Colbar, Inc., Columbus, Ohio.

THE REFRIGERATION INDUSTRY:

Many thanks for the large group of inquiries forwarded to us as a result of your editorial item on Lenk electric soldering irons. Naturally, we are going to answer

THE BONNEY TOOLS You've ALWAYS WANTED



...as close as your telephone

Just pick up your phone and call your local, friendly Bonney Jobber and he'll get the "world's finest tools" into your hands in a jiffy. If you don't happen to know offhand who your local Bonney Jobber is, DO THIS TODAY . . .



Mail Coupon Below for YOUR NEW BONNEY CATALOG and also the name, address and phone number of YOUR JOBBER.



BONNEY

World's Finest

TOOL

BONNEY FORGE & TOOL WORKS



ALLENTOWN, PA.

BONNEY FORGE & TOOL WORKS, ALLENTOWN, F

Please send me without charge, latest catalog showing Bonney Tools and Tool Sets.

NAME-

ADDRESS

CITY_

ZONE__STATE



Tests prove Steel-Backed, High-Tin, **Babbitt-Lined Bearings Superior!**

Pioneered by Wagner in 1927, steel-backed, high-tin, babbitt-lined bearings have proved superior both in laboratory tests and field performance. These nave proved superior both in laboratory tests and new performance. These steel-backed, high-tin, babbitt-lined bearings of prewar quality have been furnished for the past year. They withstand heavy pressure, resist seizure and shaft scoring and operate at low temperatures. That's why Wagner uses them exclusively in their famous fractional horsepower and smaller integral horsepower sleeve-bearing motors (203-505 frames).

Steel-Backed, High-Tin, Babbitt-Lined Bearings Come Ready to Install...

Wagner steel-backed, high-tin, babbitt-lined bearings come to you diamond-bored to a specific size-simply press in (don't beat in-this causes buckling and upsetting of end of bearing) and reassemble the motor. It

They are also available unbored for use on undersized shafts so that they can be line reamed to the desired size.

GET THEM WHERE YOU SEE THESE SIGNS



identifying the 450 Authorized Service Stations or Parts Distributors for Wagner Motor Replacement Parts. They are available for immediate



Write for CATALOG MU-40

Every repair shop needs one. It helps determine the catalog number and price of Wagner Motor Parts.



6442 PLYMOUTH AVENUE ST. LOUIS 14, MO., U.S. A.

ELECTRICAL AND AUTOMOTIVE PRODUCTS

I.ETTERS

these inquiries as promptly as possible, as you have requested in your letter .- H. N. Alexander, sales manager, Lenk Mfg. Co.

THE REFRIGERATION INDUSTRY:

We sincerely thank you for the various inquiries you recently forwarded to us as a result of your notation No. 259—Hair Filter, which appeared on page 58 in the April issue of THE REFRIGERATION INDUS-

The information, as promised, is being sent to each person.

Thanks again .-- R. M. Seepe, Hair Filter Division, Wilson & Co., Inc.

Needless to say, we are always gratified by the splendid response received by manufacturers whose products are mentioned in the columns of our magazines. Letters like this provide further testimony to the fact that the readers of THE REFRIGERATION INDUSTRY are actively interested in the refrigeration field .- Editor.

Who Makes Vacuum Pumps?

THE REFRIGERATION INDUSTRY:

In the April issue of THE REFRIGERATION INDUSTRY there is an article starting on Page 33 covering "Moisture in the Refrigeration System".

We just had an inquiry from one of our customers covering a portable vacuum pump. We would appreciate any information you can give us regarding manufacturers of this type of equipment.

Your prompt attention will be greatly appreciated .- O. A. Larson, Larson Supply Co., Reading, Pa.

A list of eight manufacturers of portable vacuum pumps applicable to refrigeration use was sent to Reader Larson.—Editor.

OMPLETION of a new industrial film, "Zonolite, the Wonder Material," has been announced by Zonolite Co., world's leading miner and processor of vermiculite products

The movie presents the history and detailed applications of this lightest of all building material aggregates. It treats the revolutionary advance in all phases of the construction industry brought about by the development of vermiculite as loose fill insulation and phenome-nally light-weight aggregates for plaster and concrete.

The black and white, 16 mm. sound film runs 18 minutes. Interested organizations may arrange showings by writing to: Film Section, Zonolite Co., 135 South La Salle St., Chicago, Ill.

FOR a POSITIVE SEAL

Postall a
Postall a
Postall a
Lock





THE LOCK WITH THE Living Action

This patented lock construction never relaxes its upward grip. When the trigger (A) touches the strike, that undershot jaw (B) takes hold like a bulldog... with constant pressure from a powerful coil spring operating on an off-center plate (C) through the concealed bolt (D). That's why we call it "The Lock with the Living Action"... a principle exclusive with products of the Grand Rapids Brass Company.

Ask your jobber for locks and hinges by Grand Rapids Brass

And that goes for replacement, too!

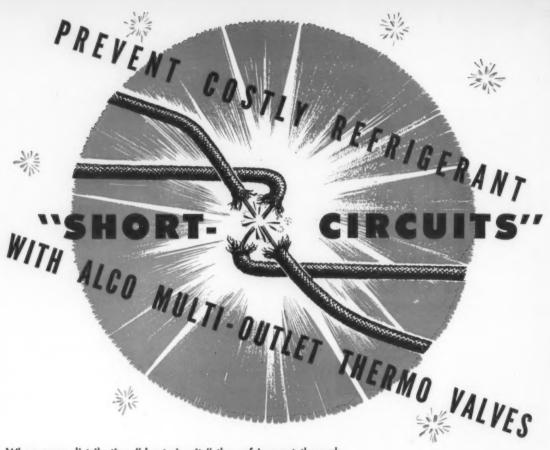
Service men are coining easy money—making themselves "solid" with their customers—by installing Grand Rapids Brass locks and hinges on leaky commercial cabinets and back bars. Jobs like this may run into three figures—plenty of profit, plus time charges. Ask your jobber for our service manual . . . providing sure-fire selling tips and installation short-cuts with detailed working drawings. Act NOW—here's real money in your pocket.



Grand Bapids Brass Company

Makers of Dependable Refrigerator Hardware for over 40 Years

Grand Rapids 1, Michigan



When poor distribution "short-circuits" the refrigerant through only a few passes, coil capacity is often cut $\frac{1}{2}$ to $\frac{1}{2}$ — efficient control is impossible — operating costs climb.

ALCO Multi-Outlet Thermo Valves assure:

- The refrigerant liquid is accurately metered at the point of expansion to all coil circuits
- Even distribution despite load variations
- Full rated coil capacity—every circuit on the job
- Instant, alert control-no "hunting" or "cycling"
- Higher operating suction pressure—more efficient compressor operation at lower cost

Available at your wholesaler's for all refrigerants, all applications: ½ to 50 tons FREON-12, 2 to 36 outlets. Ask for our Bulletin 180.





Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulators; Solenoid Valves; Float Valves; Float Switches. ALCO VALVE CO.

843 KINGSLAND AVE. . ST. LOUIS 5, MO.

Artkraf

ANNOUNCES THE

BEV-COOL

A Bottle Cooler That can be Operated Wet or Dry

- EFFICIENT
- ECONOMICAL
- STURDY
- SIMPLE TO SERVICE

Sold under factory warranty

Test boxes operated in our laboratory at 90° ambient required only 21% running time idle and 49% running time loaded to maintain operating temperatures. Cold control at midsetting showed 33° water temperature when operated as a wet cooler and 38° air temperature when operated dry.

Operating costs computed on the basis of our experience with test boxes operating for 16 hours per day under load at 2c per k.w. indicated probable operating expense of \$1.00 per month or less.

SPECIFICATIONS:

CAPACITY SIZE FRAME CABINET

FINISH COLOR

INSULATION TANK

REFRIGERANT CONDENSING UNIT SHIPPING WEIGHT

5 cases bottles standing or 10 cases of same corded.
36" x 42" x 27".
All welded steel construction.
20 ga. C.R. steel welded seams bonderized for rust proofing.
Hi-Baked Dulux.
White or Silver Blue (choice of color on quantity orders).
3" Same Color of the standard of the standard orders.

orders).

'Spun Glass-Sealed Cavity.

Ire Copper Sheet with coils attached to sides and bottom to assure fast conductivity of heat units.

bottom to assure tast conductivity of heat units. 18-8 Stainless Steel, Two Slide-Overlapping. Freon 12. Fan Cooled Hermetic 1/5 H.P. 115 V, 60 Cycle, Permanently Oiled. 340 lbs.

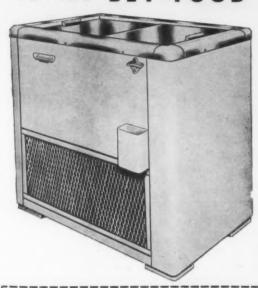
rtkraf

MANUFACTURING CORPORATION

300 Kibby Street

Lima, Ohio, U.S.A.

COMPANION



THIS COUPON FOR YOUR CONVENIENCE

Arthraft MANUFACTURING CORPORATION 300 Kibby Street Lima, Ohio, U.S.A.

- ☐ Please send the name of the BEV-COOL distributor in this territory.
- Please send details of distributor's franchise.

FIRM.

STREET

MANUFACTURERS OF THE FAMOUS Artkraft * BEV-LINE



LOW BOY



BEV-COOL



BEV-FOOD



BEV-ETTE



BEV-GIANT

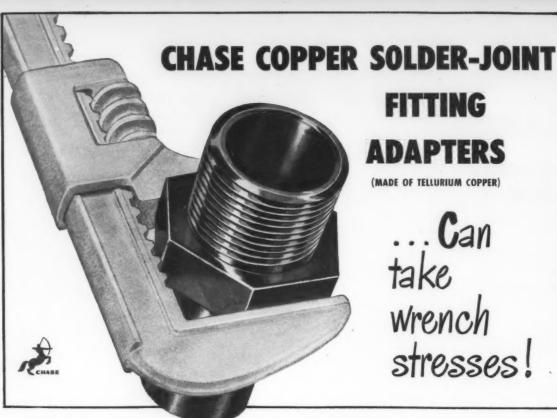


MAYTAG HOME FREEZER



QUALITY PRODUCTS FOR OVER A QUARTER CENTURY

- Manufacturers of the famous Maytag Home Freezer, Artkraft Bev-Food Beverage Cooler and Food Refrigerator, Artkraft Signs for National Advertisers, Artkraft Low Boy Table Top Refrigerator, Bev-Giant Cooler, Bev-Ette Office Beverage Cooler, Bev-Cool Bottle Coolers for Dr. Pepper, Double Cola, Whistle, Vess Cola, O-So Grape, B-1, Red Rock Cola.
 - * Trademark Reg. U.S. Pat. Off.



FITTING

(MADE OF TELLURIUM COPPER)

.. Can wrench stresses!

No need to fear pulling a wrench on Chase Copper Solder-Joint Fitting Adapters. They are designed for greater strength and resistance to deformation to withstand the stresses imparted by wrenches. Chase Adapters are also made of Tellurium* Copper, a special patented Chase alloy that machines into uniform, clean-cut threadsfor tight joints.

In addition, every Chase Copper Tube Adapter is made with SO₂ threads in sizes through 1" nominal. And all Chase Wrought Copper Fittings are made to fit the tube accurately-and are as sound and non-porous as the tube itself.

Ask your distributor for Chase Copper Refrigerator Tube and Fittings. Both are made to the same high standard of quality. *U. S. Pat No. 2,027,807



Chase Copper Refrigerator Service Tube in sizes 1/8" to 5/8" diameter is packed in this extra bandy package that prevents two-layer coil of tube from shifting. Tube is extra soft for easy working, and packaged in 50' standard lengths, with special sealed ends.



the Nation's Headquarters for

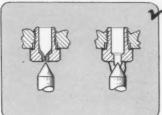
THIS IS THE CHASE NETWORK . . . handlest way to huy brass

ALBANY! ATLANTA BALEIMORE BOSTON CHICASO CINCINNATI CLEVELAND DETROIT HOUSTON: INDIANAPOLIS KANSAS CITY NO. LOS ANGELES MILWAUREE MINNEAPOLIS NEWARK NEW ORLEARS NEW YORK PHILADELPHIA PITTSBURGH PROVIDENCE BOCHESTER! SAN FRANCISCO SEATTLE ST. LOUIS WATERBURY (Haditates Sales Office Doly)

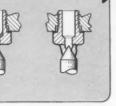
BEFORE YOU BLAME THE EXPANSION V OVER 98% OF THE VALVES RETURNED SHOW NO DEFECTS



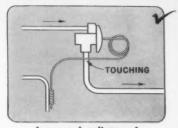
Clogged Inlet Strainer



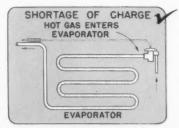
Plugged Orifice



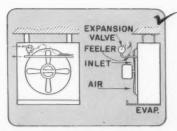
Moisture and Wax in Orifice



Improper Installation of Gas-Charged Valve Capillary tube should not touch cold refrigerant line or cold surface.

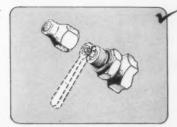


Incorrect Refrigerant Charge Illustration indicates short charge. An excess is equally undesirable.



Incorrect Bulb Location

Feeler bulb located in return air stream causing valve to overfeed.



Improper Superheat Adjustment

Valves are factory set to operate underaverage conditions. Readjust-ment should be made only after several hours of operation.

THESE CAUSES OF VALVE FAILURE AN BE AVOIDED OR CORRECTED IN THE FIELD

DIVISION OF AMERICAN RADIATOR & Standard Sanitary CORPORATION

General Offices: 5900 TRUMBULL AVENUE, DETROIT 8, MICHIGAN

Canadian Representatives—RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG

"DETROIT" HEATING AND REFRIGERATION CONTROLS . ENGINE SAFETY CONTROLS . FLOAT VALVES AND OIL BURNER ACCESSORIES "DETROIT" EXPANSION VALVES AND REFRIGERATION ACCESSORIES . STATIONARY AND LOCOMOTIVE LUBRICATORS

MUELLER BRASS CO. Ful-Flo REFRIGERATION FITTINGS



No Restriction in Flow Capacity

Mueller Brass Co. refrigeration fittings conform in every respect to S. A. E. standards with the exception of the bore. THE BORE IS MACHINED TO PERMIT A FULL FLOW EQUAL TO THE INSIDE DIAMETER OF THE TUBING USED, AND CONSEQUENTLY IS LARGER IN INTERNAL AREA THAN S. A. E. FITTINGS.

All fittings are accurately machined and of the

highest quality materials. All flare outlets are finished to the closest desirable tolerances.

A Service

BONG HOLDE

MANUAL PROPERTY OF THE PARTY OF

Braycon.

Carry Trees

A STATE OF THE STA

BOMBON.

Particular attention is given to the accurate machining of flared seats; they must be absolutely flat, smooth and concentric with the bore. All male flare threads are protected by heavy sleeves to prevent damage in shipping or handling.

FORGED Years of experience have conclusively shown that forged brass nuts and fittings are vitally essential in mechanical refrigeration and air conditioning because they require a dense metal structure that can best be obtained through forging.

PIPE AND FITTINGS DIVISION
MUELLER BRASS CO.
PORT HURON, MICHIGAN

yours for the Asking

Air-Acetylene Appliances

CARRIED IN STOCK BY

all the Information you need about—

SOLDERING, HEATING, AND BRAZING EQUIPMENT

18 Popular Outfits . . . 34 Torch and Soldering Iron Combinations . . . Regulators . . . Floodlights . . . Adaptors . . . Parts and Accessories.

How to make up an outfit to meet your exact needs. Where and how PREST-O-LITE Appliances save time and money...do better work.

YOUR Copy Is Ready NOW ...

See Your Brest OLite Jobber

Trade-Mark

or mail the coupon

"Prest-O-Lite" is a trade-mark of The Linde Air Products Company Unit of Union Carbide and Carbon Corporation. Date_

THE LINDE AIR PRODUCTS COMPANY

Apparatus Sales Division, 30 East 42nd Street New York 17, N. Y.

- Please send me, without obligation, a copy of the new 20-page PREST-O-LITE Catalog, F-6995.
- Please send me the names and addresses of PREST-O-LITE Jobbers near me.

Name____

Company

Street Address

City_____State____

NEW DOME COOLER ONE OF THE BIG THREE OF 1948





Two-way Dome Cooler with air flow limited to two directions. The new, improved 1948 model of the Peerless Dome Cooler, the cooler that went to war and made a record for distinguished service! Here, with beautiful spun aluminum casing and the new Peerless Coil, is the proud successor to the 20,000 Dome Coolers that cooled the food for all U. S. Army Cantonments from the start of World War II. In the Dome Cooler, air from the refrigerator is drawn up in the center of the unit and discharged horizontally along fixture ceiling to drap down the side walls. The Dome Cooler is the ideal unit for maintaining high humidities in reach-in and walk-in coolers. Its installation is a simple operation, it occupies minimum space, and it is engineered for correct functioning and long life. Complete with built-in hear exchanger and suction spinner.



Standard Dome Cooler with air emitting in all directions.

Model No.	List Price	Capacities B.T.U. per Hr. at Given F.D. Between Air and Refrigerant		Motor and Fan Characteristics				Overall Dimensions Including Mater			Connections			
		15	10	20"	Maior H.P.	R.P.M.	Fun. Size	C.F.M. Capacity	Height	Width	Depth	Liquid	Suction	Drain
67	\$59.15	6.5	650	1300	1/100	1550	9	220	434	1.8	18	1/2	1/2	1/2
97	70.50	9.5	950	1900	1/100	1550		240	434	20	20	1/2	1/2	1/2
127	80.50	125	1250	2500	1/100	1550	10	360	434	22	22	1/2	1/2	1/2
227	111.45	225	2250	4.500	1/30	1000	12	560	8	27	27	1/2	1/2	1/2
327	143.00	325	3250	6500	1 30	1000	12	520	8	27	27	1/2	1/2	1/2
457	196.00	450	4500	9000	1.30	1000	16	1050	8	31	31	1/2	5%	1/2
607	235.00	600	6000	12000	1,30	1000	16	1000	8	34	34	1/2	5%	3/6
907	285,00	900	9000	18000	10	1140	20	1800	13 %	43	43	1/2	3/4	%
1257	375.00	1250	12500	25000	16	1140	20	1700	131/2	46	46	1/2	3/4	5%



ENGINEERING DATA ABOVE

FOR BOX TEMPERATURES ABOVE 32"
FOR USE WITH FREON, METHYL CHLORIDE AND SULPHUR AS REFRIGERANT.

PEERLESS of AMERICA, Inc.

2901 LAWRENCE AVE.

CHICAGO 25, ILLINOIS, U. S. A.



How a *small* Condensing Unit can do a *B/G* refrigeration job

MAKE A
GENERAL ELECTRIC
CONDENSING UNIT
THE HEART OF YOUR
REFRIGERATION
SYSTEM



In a General Electric condensing unit, the compressor piston is ground to a tolerance of .0003 inch, to assure accurate fit in cylinder. Swedish steel valves are wide-opening, easy-lifting . . . valve plates are thin . . . gas passages large and unrestricted.

Result: each stroke of the piston pushes most of the refrigerant gas out of the cylinder, through the discharge valves, into the refrigerating system. That's H. V. E.—High Volumetric Efficiency—the reason why a G-E condensing unit gives your customer the most refrigeration for his power dollar. One of the reasons why a small condensing unit can do a BIG refrigeration job!

Yes, for H. V. E., just install G. E.! Ask your General Electric representative for full information on how this and other important G-E advantages can mean more sales for you.

General Electric Company, Air Conditioning Department, Section R8148, Bloomfield, New Jersey.

GENERAL @ ELECTRIC





RADIAL

KRAMER Unit Coolers



MULLION PANEL



COOLMASTER



THERMOBANK

A Unit to Fit Every **Application** and Capacity

Write for Catalog R-125



PANEL UNIT



STUB PANEL



DOUBLE DISCHARGE

KRAMER TRENTON CO. Trenton 5, N. J.

NOW A COMPLETE RANGE FROM 1/4" TO 41/8"







Newest addition to the NIBCO line of wrot copper fittings are 35%" couplings, ells, (both 45 and 90 degree) and tees. Other recent additions are 51/8", 61/8" and 81/8" couplings. With this expansion of the line you'll find it more-than-ever convenient, as well as profitable, to standardize on NIBCO fittings. All are formed from tubes, by the patented NIBCO method. Precision-made to fit, they speed the job and make a quality installation. Our new Catalog No. 615 illustrates and describes the complete NIBCO line for refrigeration and air conditioning. Mail the coupon now for your copy, without obligation, of course.

NORTHERN INDIANA BRASS CO., 814 PLUM STREET, ELKHART, INDIANA

Please send your new Catalog No. 615 covering NIBCO Wrot Fittings for refrigeration and air conditioning.

Name____

Street_____

City State



600,000 CUBIC FEET OF AIR PER MINUTE!

That's a lot of air—clean, cool, comfortable air that makes shopping a pleasure at Foley's, in Houston, Texas.

This ultra-modern department store, with a "windowless" exterior, is kept comfortable in both summer and winter with a huge, highly efficient air conditioning system.

Air conditioning engineers know that their installations can function well only if they are powered by dependable motors. Wagner Motors were chosen for this job—as they are for thousands of industrial, commercial, and home applications—because of their dependability and efficient operation.

Wagner builds motors in types and sizes for a wide range of applications. Whatever your job, you'll like the performance of Wagner Motors.

Twenty-nine sales and service branches, in principal cities, are ready to help you on any motor problem. Bulletin MU-185 will give you information on the complete line of Wagner Motors.



This polyphase motor is typical of the Wagner line of motors. Many types and sizes of fractional horsepower motors are now available from stock.

Wasner Electric Corporation

6442 PLYMOUTH AVENUE, ST. LOUIS 14, MO.

Consult Wagner Engineers on all Electric Motor Problems







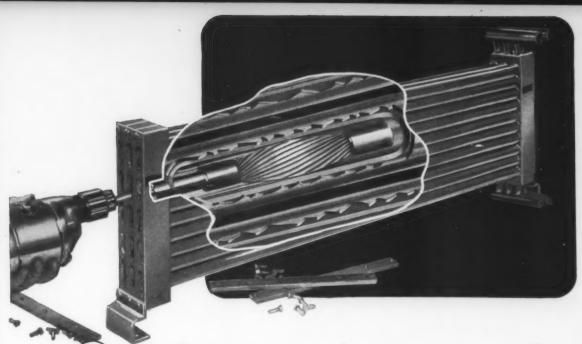






· ELECTRIC MOTORS · TRANSFORMERS · INDUSTRIAL BRAKES · AUTOMOTIVE PRODUCTS ·

M48-14



(M) condensers more economical because they're cleanable!

Commercial users and service engineers the country over are now specifying Halstead & Mitchell condensers for replacement and conversion orders—to obtain the most economical operation with maximum efficiency.

These new HM units combine two qualities never before obtainable in tube-within-a-tube, water-cooled condensers—they're cleanable, and they achieve TRUE counterflow heat-exchange relationship between the coolant and the refrigerant, enabling water requirements to be reduced without sacrificing condenser unit capacity.

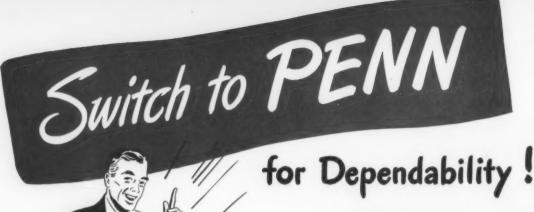
On your replacement or conversion requirements, specify HM condensers—any size from 1/3 to 10 H.P.

It's the CLEANABLE feature that makes HM condensers different! Recover "new-unit efficiency" through the simple use of a power-driven cleaning tool, as pictured. Water tubes are accessible at both ends for the spiral tool to clean and restore copper water surfaces to their original heat-exchange efficiencies.

JOBBERS in all principal cities carry HM condensers in stock for immediate delivery—standard sizes of ½ to 10 H. P. Write for jobber list and descriptive literature.



OFFICES: Bessemer Building, Pittsburgh 22, Pa.



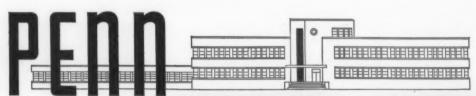
Star Features of the Penn 270

- ★ It's two switches in one—the first and only refrigeration control with double-pole construction—for greater versatility and protection.
- ★ Direct-reading visible calibrated scale shows operating cut-in and cut-out points...no addition or subtraction required.
- ★ Calibration or accuracy of performance not affected by vibration or mounting position.
- ★ Wide range of differential adjustment in one model ... Three temperature ranges cover all requirements.
- ★ Sturdy contact mechanism with better electrical performance... Large block assembly with terminals molded internally for strength and permanence.

Write now for full details on the Penn 270 Series, the refrigeration control that sets a new standard of versatility...simplicity...efficiency...and dependability. Penn Electric Switch Co., Goshen, Indiana. Export Division: 13 E. 40th St., New York 16, U.S.A. In Canada: Penn Controls, Ltd., Toronto, Ontario.



Series 270 and 272 PENN "Single" temperature or low side pressure controls. Also (not shown) Series 271 and 273 PENN "Dual" Controls which combine a temperature or low side pressure actuated mechanism and built-in high-pressure safety cut-out.



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS



Cooling Gets "Assist" From Chemicals FARMERS may soon be feeding a chemical to livestock which will better preserve meat while it is in refrigerator storage. Swine men at Kansas State College are trying out

this idea of mixing a chemical in hog feed, reports Capper's Farmer.

The chemical, not yet named, is being used to see if it will delay development of rancidity in pork fat.

If this plan works, the farm magazine says, fattening livestock can be given a preservative in their feed that will prevent certain chemical changes in stored meats. "Locker taste", for example, might not develop. And lard in the home might keep longer without becoming rancid.

Bigger Freezers Cited As "Best Bets" HOME and farm freezers in the larger sizes or of sectional construction are the best merchandising bets, according to the results of a survey recently completed among

distributors and dealers of Wilson Refrigeration, Inc. When buying their first home freezer, this survey indicated, most people make the same mistake that they did in the early days of the electric household refrigerator by buying a unit too small to adequately satisfy their needs. Once they begin to fully utilize their new unit and begin to realize its inadequacy many people then turn to a model in a size large enough to really meet their requirements.

One advantage of the sectional type of freezer, the survey pointed out, is that the user who desires to increase his freezer capacity need only add another section to his original unit, rather than purchase an entire new freezer.

Humidity "Drowns" Germs A NEW health factor in air conditioning has been pointed up by the discovery of two University of Chicago medical researchers that a relative humidity of 50% swiftly kills

germs in the air. This discovery by Edward Dunklin and Doctor Theodore Puck may give the world a simple way of stopping the spread of diseases like pneumonia, influenza, and the common cold. And it's mighty certain to give alert air conditioning salesmen one more potent talking point.

New Nylon Use WIDESPREAD use of nylon plastic—basically the same material that goes into women's stockings—in working parts of light machinery is forecast by plastic experts of the Du

Pont Co. Molded nylon parts, in some instances, are said to outwear metal and require no lubrication.

Resiliency and surface smoothness are characteristics that make nylon suitable in some bearing and gear applications. No lubricant is required for nylon bearings under light load at high speeds or moderate load at low speeds.

When lubricants are necessary, either oil or water may be used. Motor oils do not affect nylon, nor are oils adversely affected by it. Nylon bearings are recommended for temperatures as high as 325 F, although in many cases higher temperatures can be tolerated, depending on the application, it is said.

Photos Are Sales Tools THE old adage that "one picture is worth a thousand words" works out in practice for the A. E. Mayer Heating Co., St. Louis air conditioning contractor. The company makes

a photographic record of almost every job it does not only for use in sales work, but also to provide it with information on how some of its jobs were actually handled.

In many cases, having a photo handy makes it unnecessary to dig into blueprints or the original job prospectus, the company finds. Also, when a prospect is doubtful as to how a finished job will look, the company in most cases can produce a photo of a previous installation that answers his questions in advance.

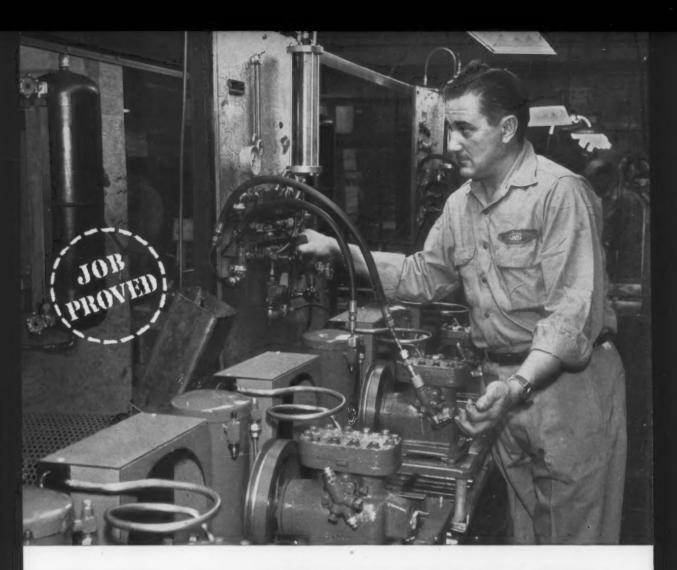
The company maintains its own cameras and photographic darkroom and does all its own work. It has found that this works out better than having commercial photographers do the picture taking. Smart contractors have been using photos to help them in their selling for some long time, but this is a step beyond that. If there's a shutter-bug in your shop, here's a chance to put him to work for you.

Heaters for Coolers PARADOXICAL as it may sound, electric heaters for refrigerators now are being produced by United States Rubber Co. The heater is a strip of electrically conductive rubber

which warms up to about 115 F and prevents "sweat" or moisture from condensing on certain parts of the cabinet's interior.

The strip is placed between the freezing compartment and the regular cold chamber of the refrigerator, and the heat keeps the dividing member or "mullion" free of moisture without materially affecting the temperature of the refrigerator. Use of these heaters is claimed to prevent the deterioration of enamel which results from continued moisture.

Electrically conductive rubber is in reality a resistance element without wires. The rubber becomes warm when energized by electricity.



NO MORE WAX-SEPARATION PROBLEMS HERE!

Suniso Refrigeration Oils Are Used Right at the Start by Maker of Refrigeration Compressors

At one time, compressor oils posed a costly problem for an important manufacturer of refrigeration equipment. Wax separation took place at low temperatures. Other refiners' oils were tried, with only partial success. It was not until a year ago, when a Suniso Oil was adopted, that the problem was completely overcome.

Shown above is the filling of a

brand-new compressor with Suniso Refrigeration Oil. This is a familiar scene in plants making refrigeration and air-conditioning equipment. They probably use more Suniso Oils than all other brands

This overwhelming preference is a direct result of qualities available only in the six Suniso grades. These oils are marked by extremely low pour-points. In many cases their wax-separation points are many degrees below industry requirements. They have unusual resistance to chemical change when mixed with Freon, methyl or methvlene chlorides, and other modern refrigerants.

For a copy of the 52-page illustrated bulletin "Lubrication of Refrigeration and Air-Conditioning Equipment," write to Dept. RI-8.

SUN OIL COMPANY . Philadelphia 3, Pa. In Canada: Sun Oil Company, Ltd. Toronto and Montreal

SUN PETROLEUM PRODUCTS DESUNCCOS

"JOB PROVED" IN EVERY INDUSTRY





Frequent contests keep these service men of the Vergal Bourland Home Appliances Co. on their toes all the time. Individual dollar volume is chalked up on the team scoreboard on the rear wall of the service shop.

Vergal Bourland is new to the refrigeration game, but in less than two years he has built a six-figure dollar volume in sales and service.

CONTESTS

sell service, too

An almost continuous series of contests organized on a team basis build service volume for this Texas dealer. Prizes range from home freezers to steak dinners



CONTESTS between competing refrigeration service crews help to swell service dollar volume even as contests among salesmen aid in building refrigeration sales, according to Ray Stapp, service supervisor for Vergal Bourland Home Appliances Co., Fort Worth, Tex.

Stapp's considered judgement should carry a little weight in this respect, for spirited competition among its servicemen is one of the things which has enabled the company to build its service organization until it now rates as one of the largest in the state, with 28 well-trained mechanics and 9 completely equipped "rolling service shops."

The company is new from the

ground up. Vergal Bourland, head of the firm, went into home appliances and commercial refrigeration in October of 1946 when he spent \$30,000 for a beautiful "all visible" appliance store, the service organization, and a big 60-car parking lot to draw traffic.

Like a lot of other dealers with an eye to the future, he realized that no dealership would be able to get along under competitive selling unless it was qualified to maintain the warranty on all of its own merchandise. Therefore, the service shop, complete with personnel and equipment, was all in place before the first piece of equipment was delivered to the handsome 9-window store located on

a major highway just out of town.

Now, in less than 2 years, sales volume averages upwards of \$120,000 a year, with the service department contributing a healthy percentage.

Stapp, who believes in using a lot of showmanship in service, credits his almost continuous chain of service contests with a large share of his department's success.

Stapp develops contests for his men which are almost identical with those staged for the firm's 15 salesmen. Under this plan the service crew is divided into two teams, each under a leader, which compete each month for the maximum amount of

Continued on page 52



The unit air conditioners shown here comprise one-half of the first packaged air conditioning system ever to be installed in a garment shop. The comfortable conditions which this system provides are used as an aid to hiring and holding skilled employees.

NO "Sweat Shop" HERE!

A clever application of packaged air conditioning units has turned the sewing room of this Cincinnati dress manufacturing plant into a garment worker's paradise. And the plant's management is pleased with the increased employee efficiency

W ORKERS at Fashion Frocks, Inc., hurry through their lunches on these hot summer days, just so that they can return more quickly to the cool comfort of the area in which they work.

That is just one of the many reasons why Phillip Meyers, president of the Fashion Frock firm, is more than pleased with the air conditioning equipment which has been installed in the company's sewing room and office.

This air conditioning installation is one of the factors which marks Fashion Frocks, Inc., world's largest manufacturer of dresses selling directly to consumers, as one of the more progressive firms in the garment trade.

The Fashion Frocks plant is located in Cincinnati, Ohio, where the summers are invariably hot and humid. These climatic conditions turned the company's one-floor sewing room, as well as the business of-fices, into a "sweat shop" in the most literal sense of the word.

Frequently during these summer months employee absenteeism increased to the point where it seriously interfered with the company's production schedule. On excessively hot days it was found necessary to close down the plant entirely.

To thoroughly realize how seriously this absenteeism and enforced shutdown hampered the company's operations, it is necessary to understand that the chief activity on be-

half of the firm's fall lines of dresses, from both a production and a promotion standpoint, takes place in mid-July, just when Cincinnati's thermometers are most likely to "blow their tops". Before the air conditioning system was installed, the temperature in the Fashion Frock shop during this peak production period frequently topped 100 F.

It was in the summer of 1946 that president Meyers decided to air condition the Fashion Frock offices. After considerable investigation he accepted the bid of Smith & Lowman, Inc., Chrysler Airtemp distributor in Cincinnati, and told this firm to go ahead with the job.

According to M. G. Lowman and C. A. Smith, owners of this air con-

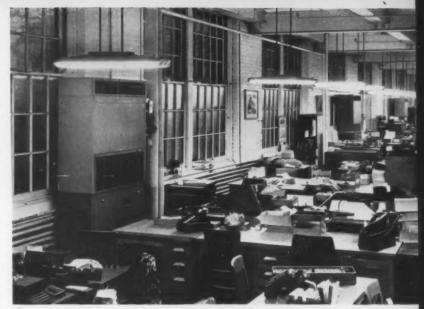
ditioning and refrigeration sales organization, the principal factors responsible for their winning of this contract were the fact that they sold the job primarily not on the basis of the type of equipment to be installed but rather on the results which this equipment would produce, that they offered a money-back guarantee of satisfactory performance, and that they were able to quote a considerably lower cost figure through using packaged equipment than their competitor could offer on a central station system.

Smith and Lowman are firmly convinced that one of the principal things wrong with the air conditioning business today is that there is too much "hocus pocus" and not enough sincerity. "That is why," they explain, "we endeavor to sell our jobs on the basis of results which the customer can comprehend rather than on a welter of engineering details which serve only to confuse him. That is also why we sell each job with an unqualified 'repurchase agreement' in which we offer to buy the equipment back at full price if the customer is not satisfied with the performance of the job." (Incidentally, they proudly report that the company has never once been requested to take back a single unit under this agreement.)

But to get back to the Fashion Frock job, Smith & Lowman installed eight 5SCA 5-ton packaged units to air condition the 15,000 sq.ft. of office space. Four of these units were equipped with steam coils to provide for winter heating as well as summer cooling. These units were located in a staggered arrangement down each side wall of the long and narrow office area.

Fashion Frock employees were so favorably impressed with the comfortable working conditions which resulted from this installation, and the company's executives were so satisfied with the performance of the equipment, that president Meyers determined to make a similar installation in the plant's sewing room.

Cooling this sewing room presented a somewhat tougher problem for Smith & Lowman than did the cooling of the office. In the first place, this room contains approximately 33,000 sq.ft. of floor space, more than double that of the office area. Also, this sewing room is on the Continued on page 66

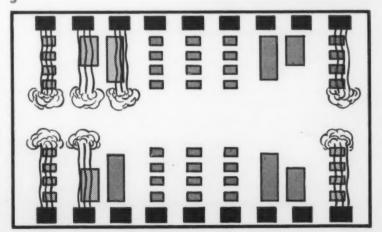


The results achieved by this air conditioning installation in the Fashion Frocks offices encouraged the management to provide similar comfort in the sewing room.

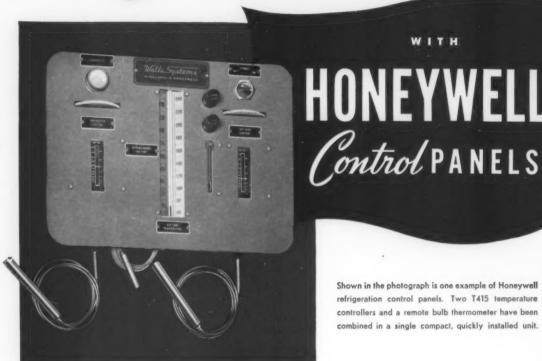
Note the proximity of work areas to the air conditioning units. Short ducts and side outlet grilles on each unit provide increased air volume without added velocity.

This rough sketch illustrates how the effective air throw of the units is calculated to cover the occupied areas of the sewing room, while "spill over" air provides sufficient cooling in the little used center aisle. (Air flow of all units is identical, although only a few have been diagramed here.)





Simplify Your REFRIGERATION INSTALLATIONS



IF you're concerned over finding new methods to cut costs and step up production, you'll profit by investigating refrigeration control panels—a development of Minneapolis-Honeywell, the 60 year leader in automatic control.

Refrigeration control panels are designed and made by Honeywell to meet your own individual requirements. The panels simply group all controls for any one of your products into one compact, workable unit. The advantages are many. Inventory items are reduced from several to just one. Materials handling is cut the same way. Production goes up as the number of control installations goes down—

to just one. And time and again, among manufacturers already using Honeywell control panels, the net result has been the same—lower costs and increased production with greater operating efficiency.

The range of applications is broad. Temperature controllers, pressure controllers, thermometers, switches, motor starters, signal lights—all these and others can be combined on Honeywell control panels. Write today for information related to your own specific needs. Address Control Panel Division, Minneapolis-Honeywell, Minneapolis 8, Minnesota. In Canada: Toronto 12, Ontario.



HOW TO MAINTAIN AND REPAIR

Gate and Globe Values

By R. A. Hendrickson

Manager, Oil Sales Crane Co.

Part I

GOOD valve service consists of proper selection and installation followed by prompt maintenance and repair of leaking or damaged valves. Even the best valve cannot be expected to work at its best and stay on the job if it's incorrectly installed. Nor can it be expected to stand up very long after it develops a seep or a leak.

After valves have been properly selected and installed, their maintenance can be reduced by a surprising amount through periodic inspection.

Service conditions and frequency of operation will determine the frequency of inspections, but once the interval of valve inspection has been established it should be made regularly and systematically. When routine valve inspection discloses a leakage, steps should be taken immediately to correct the trouble before the valve destroys itself.

Stuffing Box Leaks

Stuffing box leakage is one of the most common troubles encountered in valves. It usually happens when improper packing is used or when packing is worn.

Leaks may be evidenced by steam "flags", by unaccountable presence of moisture on piping or valve bodies, or outright dripping.

Leaks should be attended to immediately when discovered. Don't hesitate to break into insulation if a leak is suspected underneath. Such BECAUSE of the increased servicing of air conditioning equipment both by refrigeration contractors and installation and service organizations, it is important to know something of the problems of water valve repair. Many of the maintenance problems discussed in this and two succeeding articles apply equally well in principle to the water valves commonly used on water-cooled condensing units.

These articles are a bit different in subject matter from our usual run, but the information they contain is important to know. Would our readers like more of his type of information? Drop us a line and let us know.

—The Editors

hidden leaks are especially damaging to bolts, pipe and flanges. All leaks are conducive to corrosion.

If it is necessary to hunt a leak under pipe insulation, it is suggested, for a minimum of damage to the insulation, that a puncture be made with a wire at the point of suspicion, permitting leakage to escape. Another practical method is to insert a pipe nipple through the insulation at each flange joint. Drainage from the nipples will indicate leakage in the line.

Neglected stuffing-box leaks will eventually damage valve stems.

Most stuffing-box leaks can be stopped simply by pulling up the packing bolts, or by tightening the valve gland nut. Be sure to tighten bolts evenly.

If tightening the packing gland does not stop leaking, it is a simple matter to replace the packing. To repack, loosen all stuffing-box parts and remove the old packing, using a bent wire or other hook to clean the box thoroughly. Insert the new packing and tamp it well into place. Add a few drops of oil between layers to help work in the new material. If ring packing is used, be sure to stagger the ring splits, so that they are not all in line.

Gasket Leaks

If a leak is allowed to continue at a bonnet joint or a flange joint, it is not just the gasket that suffers. The joint faces are soon ruined. If bolt take-up does not cure a joint leak, replace the gasket immediately.

The type of gasket material to be used is important. Gaskets are of three general types; flat-ring gaskets which cover the face of the flange to the inside of the bolt holes, full-face gaskets through which the flange bolts pass, and metal rings of elliptical cross-section fitting into machined grooves flanges.

Gasket materials comprise rubbber, asbestos composition and soft metals. Rubber gaskets are generally used for low pressures at normal temperature. As pressures increase in cold service, and for hot service up to 750 F, asbestos compositions are frequently used. Metallic gaskets are extensively used when steel valves are installed.

Variations in gasket materials are so wide, however, that manufacturers' recommendations should be consulted before the material to be used is selected. Various types of gaskets take different treatments before they are inserted in the joints.

CONTRACTORS News · Activities · Plans

While The Refrigeration Industry is not the official publication of the National Association of Refrigeration Contractors, the Editors assign this space each month to the association. The information below is furnished, for the most part, by the offices of the association and its local affiliates.

Cooling Contractors and The Taft-Hartley Law

Editor's Note: NARC's recording secretary and national legislative chairman, Nathan Edelstein, herewith gives his personal opinions on the Taft Hartley Law. This is in line with NARC's policy of keeping its members informed on various legislative enactments which affect refrigeration contractors and which at the same time are of general interest. Edelstein also is general counsel for the Refrigeration and Air Conditioning Guild, Inc., one of NARC's affiliated associations.

By Nathan Edelstein

THE Taft Hartley Act was not the first labor law passed in recent times. The first of the modern labor laws was the N.R.A. which was passed in 1933 and declared unconstitutional in 1935.

The N.R.A.'s main purpose was to establish "codes" of fair competition. Representatives of both employers and unions met together to establish these "codes" under the supervision of the federal government. The "codes" provided for minimum wages, maximum hours and a guarantee to labor to organize and bargain collectively.

The Wagner Act, also known as the National Labor Relations Act, was passed in 1935, and unlike the N.R.A. was declared constitutional in 1937.

The Wagner Act established a greater equality of bargaining power between employers and unions by requiring employers to deal with unions which represented a majority of their employees in an appropriate bargaining unit. It made it an unfair labor practice for an employer to discriminate in any way against his employees because of their union membership or activities.

The Wagner Act, different from the N.R.A., had no jurisdiction over the contents of collective bargaining contracts. It did not specify what should or should not be in contracts, nor how bargaining should work. It merely provided that both parties should sit down around the bargaining table and negotiate. It provided that when an employer and an employee agreed on the terms of employment, the agreement must be reduced to writing and signed by both parties.

The National Labor Relations Board, the agency appointed to enforce the Act, made various regulations and these regulations, after being tested in the Courts, became

and are the prevailing law. Nothing in the Wagner Act allowed the N.L.R.B. to force the carrying out of the terms of the contract. Only the general law of contract was used to enforce the agreement.

The Taft Hartley Act, otherwise known as the Labor Management Relations Act, was passed on June 23, 1947, as Public Law 101. This law modifies the Wagner Act, It was held by the proposers that the Taft Hartley Act balanced the equities between employer and employee, giving the employer some of the rights which had been taken away from him by the passage of the Wagner Act and by the various regulations of the N.L.R.B. and the interpretation of these regulations and of the Wagner Act by the U.S. Supreme Court.

It is important to note that both the

Taft Hartley Law and the Wagner Act deal only with firms that are engaged in interstate commerce. The Wage & Hour Act, or the Fair Labor Standards Act, deals with this interstate problem in more detail (for an opinion on Wage & Hour Law, see the "Contractors" page in the May, 1948 issue of The Refriceration Industry.)

In addition to the N.R.A., the Wagner Act and the Taft Hartley Law, there are many other important Federal Laws which deal with labor problems.

The Wage & Hour Law is one of the most important. Its purpose is to prevent the spread or the perpetuation of labor conditions detrimental to the health, efficiency and well being of workers and to prevent unfair methods of competition based on such labor conditions. It establishes a minimum wage of 40 cents an hour and time and a half for all hours worked over 40 hours.

Function of Norris-LaGuardia Act

Another Federal law is the Norris-LaGuardia Act passed in 1932. It regulates the issuance of injunctions by federal courts in labor disputes by setting forth certain precedentary conditions before an injunction can be granted and prohibits outright the enjoining of certain other acts. This law however, has in a large measure been repealed by the Taft Hartley Act.

Labor relations of the railroads and air lines are covered by the Railway Labor Act of 1926.

The National Labor Relations Board enforces the various labor laws. In conjunction therewith there is a National Mediation Board. The Railway Labor Act of 1926 establishes the National Railroad Adjustment Board which makes final decisions on disputes arising out of grievances between carriers and employees.

Besides these federal laws stated above, there are many state labor acts. Prior to the passage of the Taft Hartley Bill, some employers preferred to use their state labor laws whenever applicable for its labor relations and for the settling of labor disputes. Since the passage of the Taft Hartley Law,

CHICAGO CONTRACTORS HEAR NATIONAL OFFICERS



This recent monthly meeting of the Refrigeration Contractors Association of Chicago was attended by two officers of the National Association of Refrigeration Contractors—president E. S. Wright of Youngstown, Ohio, and immediate past president Warren W. Farr of Cleveland—both of whom were in Chicago on NARC business. Both national officers congratulated the Chicago group on adding nine new members within the past two months, and president Wright spoke briefly on the program of the national association.

SHOULD CONTRACTORS BE LICENSED?

"No!" Says ACRMA "Yes!" Says NARC

R EGISTRATION or licensing of air conditioning and refrigeration contractors is contrary to the best interests of the public and of the air conditioning and refrigeration industry." That is the major premise of a formal statement issued by the board of directors of the Air Conditioning and Refrigerating Machinery Association at a meeting at Hot Springs, Va.

In unanimously adopting a statement of policy on this subject, these industry leaders drew particular attention to the possibility of abuses inherent in contractor licensing and its effect on users of the industry's products.

Complete text of the Association's statement follows:

"ACRMA believes that registration or licensing of air conditioning and refrigeration contractors is contrary to the best interests of the air conditioning and refrigeration industry.

"Licensing requirements provide a ready and convenient channel for abuses such as the limiting of competition by excessive fees, through unreasonable requirements, and through administration by examining boards and enforcement agencies which may be less than impartial. Excessive fees, unreasonable examination requirements, and similar features tend to limit free and competitive enterprise and create barriers to interstate and intercommunity commerce.

"Licensing charges must be reflected in higher over-all costs of air conditioning and refrigeration installations to the buyer, without any assurances of quality of equipment, proper installation, and safe operation of air conditioning and refrigeration installations." N REPLY to the recent pronouncement in which the Air Conditioning and Refrigerating Machinery Association states its opposition to the licensing of refrigeration and air conditioning contractors, the National Association of Refrigeration Contractors has issued an official statement confirming its endorsement of such regulatory measures.

The complete text of this spirited rebuttal follows:

"We are indeed sorry to learn that ACRMA has adopted this policy, for we of NARC firmly believe that licensing of refrigeration and air-conditioning contractors is an industry job. We stated this when announcing our policy of assisting on licensing regulations in all areas where legally applicable.

"It is the considered opinion of the directors of NARC that unless prevalent abuses and conditions are corrected voluntarily, by the contractors, in conjunction with the other segments of the industry, detrimental and restrictive legislation is bound to be passed by city and state governments.

"The decision of NARC's directors was reached after a thorough poll of our members, who are some of the largest and smallest contractors in the country.

"Certainly, ACRMA must be cognizant of the abuses, malpractices, and unsavory acts which were not only prevalent among manufacturers, wholesalers, and retailers in other fields, and thus endangered the public health and safety, but in some cases even resulted in national scandals. The result was licensing and regulations designed to give the public maximum protection.

Continued on page 70

employers, who formerly did not care whether the state or federal labor board took jurisdiction, now feel that the Taft Hartley Law gives them more adequate protection than the state law and are therefore trying to establish the interstate nature of their business in the courts.

Our problem is commercial refrigeration, then, in a two pronged, almost contradictory set of affairs. To date (see Wage & Hour opinion) it has been our contention that commercial refrigeration contractors are generally in intrastate business. If we wish to come under the Taft Hartley Law, our business necessarily would have to be interstate in character.

Therefore, each contractor must determine for himself whether his business falls within the category of interstate or intrastate. If, after careful consideration, it is determined that the business is intrastate in character, then the Taft Hartley Law does not apply.

Significance of the Taft Hartley Act

The most significant change brought about in the labor law by the Taft Hartley

Law was in the bargaining process. No one should sign a union contract under the Taft Hartley Law without having counsel in constant attendance. The lawyer must cope with an intricate and voluminous code which is as unreadable, dull and soporific, as a trust indenture.

When the act was passed, a Washington wit jokingly quipped, that it was "hell for the unions, purgatory for the employers heaven for the lawyers". The law creates the necessity that those who engage in collective bargaining must have a

Continued on page 63

CONSTANT TEMPERATURE CABINET PRESENTS DESIGN PROBLEMS

Could you design a refrigeration test cabinet capable of maintaining a constant temperature plus or minus 3/10 of a degree within the range of -40 to 150 F while a quantity of air was constantly being drawn from the box? This Dayton, Ohio contracting firm could—and did! Here's how

(See diagrams on facing page.)

A NY refrigeration contracting concern which specializes in the design and engineering of special-purpose cooling equipment occasionally is confronted with a job which poses a real problem in application engineering and which taxes to the utmost the firm's combined design and engineering capabilities.

Such a job was the constant temperature chamber built by Hughes Simonson Engineering Co., Dayton, Ohio, for some special research and experimental work by a government

agency.

This cabinet had to be designed and constructed for the specific purpose of maintaining a condition of constant temperature within the range of -40 to 150 F while a quantity of air was being drawn from the box. It was necessary to replace any air withdrawn from the box, and proper provision for the supply of this air had to be incorporated into the unit.

Close Control Required

Among the important considerations in the design of this constant temperature cabinet was the use of an extremely large quantity of air to avoid a differential within the box due to heat load, and also the control of a secondary refrigerant within the very narrow limits of 2 degrees.

Actual results obtained in this unit were plus or minus 3/10 of a degree, as measured by a Leeds-Northrup Type K potentiometer using 16 thermocouple stations made of 24 B&S wire gauge. These thermocouple stations were equally spaced throughout the box.

The air distribution arrangement

for this cabinet provided for four air changes per minute through the use of a perforated ceiling supply and a perforated floor return. A ½-inch space was provided between the perforated ceiling and the top of the box. This space, into which air is delivered under pressure, was protected by a dead air space plus 6 inches of cork insulation.

It was absolutely necessary to provide this dead air space if quick cooling was to be accomplished, otherwise the inertia effect of the cork insulation would slow down any rapid pull-down. At the same time, after control temperature is reached, the inertia effect of the cork insulation tends to hold the box at an even temperature. Both of these factors were found to be important considerations when designing equipment for a temperature variance of plus or minus ½ degree.

The second principal point of this design was the use of a secondary refrigerant (Freon-22 was used as the primary refrigerant), which in this case was methyl alcohol, or the commercial product "Zerex". At the mixing tank this secondary solution was held to within plus or minus 2 degrees of the desired temperature within the box. A three-way by-pass valve actuated by a thermocouple controlled the temperature of the box to within plus or minus ½ degree by modulating the by-pass valve through a potentiometer controller.

Still another important consideration was the method of sealing the pumps used in circulating the secondary solution. No standard packing was found that would stand up under this unit's service requirements of -40 to 150 F, and it was necessary to replace the packing gland with a Chicago rotary seal before acceptable performance could be obtained.

Operation Is Outlined

The theory of operation of the unit is based upon the maintenance of a constant secondary solution temperature to the coil within the box. Maintenance of a constant temperature of the solution in the mixing tank within 10 degrees of the desired box temperature assures the maintenance of the box temperature within 10 degrees of the required temperature. The throttling action of the by-pass valve which regulates the flow of brine from the mixing tank to the coil assures control within the close limits required.

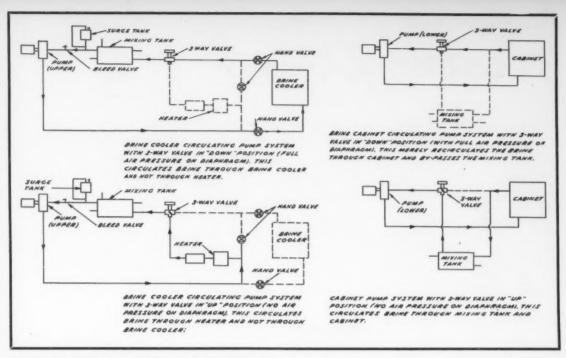
If, after design temperature is reached by the action of the automatic controls, there should be a tendency for the box temperature to fluctuate beyond the required limits, this can be connected by a manual adjustment of the mixing tank temperature.

The system of control is set up as follows:

A secondary refrigerant and heating medium (alcohol) is circulated through the coil within the box. Air is drawn over this coil by means of a fan. After being thus cooled, this air is then delivered to the box.

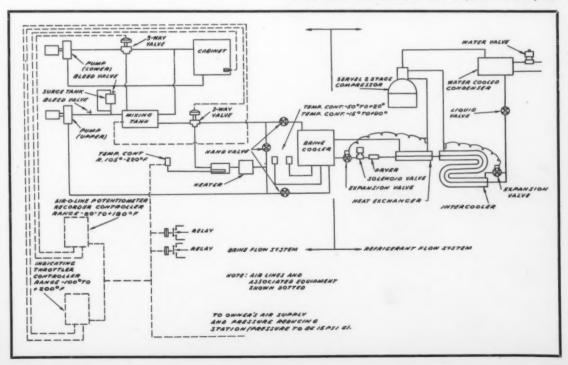
The secondary refrigerant is heated or cooled by the action of a Freon-

Continued on page 51



The schematic diagram above indicates the flow of refrigerant in the primary system and of brine in the secondary system of the constant temperature test cabinet described on the facing page.

The diagram below outlines the cycle of brine flow in this special cold test cabinet system under extreme positions of the modulating control valves. Close control of brine temperature was required.



ABOUT People

Thorpe A. Mayes, Jr. of Dallas, Tex., has been named south central



representative of Kramer Trenton Co. Mayes previously has been associated with Atlantic Refining Co., General Motors Co., and Lehigh Foundries. A licensed pilot, he plans on

covering most of his new territory with his own plane.

Clyde L. Webb has been appointed sales representative for Electrimatic Div., Simoniz Co., in the states of Texas, Mississippi, and Louisiana. For the past two years Webb has been surplus property officer in the refrigeration equipment sales division of the War Assets Administration. During the war he served with the War Production Board. For three years prior to the war he was manager of the Farr-Webb Co., a commercial refrigeration and air conditioning dealership in Houston, Tex.

Basil S. Miller has been named district manager for Servel, Inc.'s



electric refrigeration division. Miller, who has been in the refrigeration field in sales and engineering work for more than 20 years, will represent Servel in one of the company's

midwestern territories. In his new position he will cover Kansas, Missouri, Illinois, Indiana, and Kentucky. His headquarters will be in St. Louis.

Sherer-Gillett Co. has announced appointment of John S. "Jack" Twist as factory representative in the midwest states. Since his return from military service, Twist has been selling the company's line of commercial refrigerators in the retail territory adjacent to the factory at Marshall, Mich.

Ronald D. Gray, Jacksonville Beach, Fla., who has been in the re-



frigeration field for 23 years as a sales representative, now is handling sales of Artkraft Mfg. Corp.'s line of "Bev" refrigeration units in the southeastern part of the United States.

Gray, one of the originators of the idea of "packaging" refrigeration by selling the compressor and case as a unit, has been selling the Artkraft "Bev-Food" for more than a year. Now, as a regional sales manager, he has added the companion units in the beverage cooling field. The southeastern area includes North and South Carolina, Georgia, Alabama, Louisiana, Southern Virginia, Florida, Mississippi and Tennessee.

Appointment of three sales and service representatives has been announced by the refrigerated cabinet division of Anheuser-Busch. Elmer M. Hoefle will cover the eastern area; William J. Edmunds, will cover the central and northern divisions; Elmer J. Schrader will represent the firm in the southern and southwestern areas. All three have had years of experience in refrigeration sales and service work, either with Anheuser-Busch or with other companies.

William R. Rinelli has been appointed director of Ansul Chemical



Co's. new customer relations department. This department will correlate the company's advertising, publicity, sales promotion. and marketing. Rinelli is well known in the re-

frigeration industry as the co-author of a number of technical papers. He also is one of the authors of "Refrigerating Data Book", published by the American Society of Refrigerating Engineers. Prior to this new assignment, Rinelli was manager of Ansul's development division. He has been with Ansul 13 years.

Two new division sales managers have been appointed by R. H. Bishop Co. Morton L. Ackerman will cover the New England states, New York state, northern New Jersey, and a small section of northern Pennsylvania from his headquarters at Yonkers, N.Y. Jos. R. Siegert will cover the southern half of New Jersey, Pennsylvania, Maryland, Delaware, Virginia, West Virginia, and the District of Columbia from his Philadelphia headquarters.

Thomas S. Pendergast has been appointed sales manager of the re-



frigeration products division of Hupp Corp., Cleveland. Pendergast brings to the Hupp organization an extensive refrigeration sales and manufacturing experience covering 20

years. Formerly vice president of Universal Cooler Corp. and later assistant to the general manager of Universal Cooler Div., International Detrola Corp., he served on several government boards during World War II, notably the General Advisory Committee, Refrigeration and Air Conditioning Industry, assisting the War Production Board, and as a Continued on page 78



in precision-made Formed Tubes

Copper, Brass, Bronze, Copper-Nickel Alloys and Aluminum in sizes from .015" O.D. to 1"O.D., with wall thickness down to .004" Ready-to-install units to your specifications. Extra long coils of Copper Tube from 300 to 2500 feet in length. Capillary and Restrictor Tubes, Bourdon Tubes, Thermal Expansion

Bulbs, Specially Shaped Grid Coils...and, of course, Anaconda Dehydrated Copper Refrigeration
Tubes with the famous Cup
Seal.

Precision tubes are our business, and we'll be glad to talk about them with you.



Anaconda Refrigeration Tubes

FRENCH SMALL TUBE BRANCH OF THE AMERICAN BRASS COMPANY

Subsidiary of Anaconda Copper Mining Company—General Offices: Waterbury 88, Connecticut
In Canada: Anaconda American Brass Ltd., New Toronto, Ont.



Equally prepared for selling a commercial refrigeration job or personally handling an emergency service call. Fred Boehne stands in the doorway of his office.



Sixteen-year-old Fred Jr., the elder of Boehme's two boys, is acquiring a solid grounding in refrigeration fundamentals by working in his father's service shop.

THE REFRIGERATION INDUSTRY'S MAN OF THE MONTH

A FAMILY AFFAIR

It is Fred Boehme's proudest boast that 60% of his family is actively engaged in the operation of his refrigeration contracting firm—and old Dan Cupid is responsible for it all!

LOVE got Fred Boehme into the refrigeration business.

That was back in 1926, and in all those 22 years he's never for a moment been sorry—sorry that he fell in love with the woman who is still his wife, or sorry that he entered the refrigeration business.

Nor should he be, for today he actively heads up his own business under the name of Fred E, Boehme,

Inc. and functions as one of Milwaukee's leading refrigeration contractors. And on the family side of the ledger, he and his wife have reared five fine children, the three eldest of which already are "growing up with the business". It is Fred's proudest boast that 60% of his family are taking an active part in his company's operation.

Here's how it all came about.

In 1926 Fred Boehme was just a young student in engineering at Milwaukee's Marquette University. Like many of his fellow students he also was in love, and wanted very much to get married. But marriage and a college student's income—back in those days, at least—were not at all compatible.

Fred was desperately searching for a solution to this personal dilemma





Two of Fred's three daughters, Mary (standing) and Agnes, check over service records of their father's customers. They work after school and during vacations.

Marie Boehme, the woman who started it all, admires one of the many pieces of furniture in her home which reflect her husband's handicraft at woodworking.

when his roommate at college left school to go to work for the Stover Co., Milwaukee's Frigidaire distributor at that time. He continued to room with young Boehme, however, and during the course of their nightly "bull sessions" he used to talk a good deal about his new job and how well he liked the work he was doing. He waxed so enthusiastic about the opportunities existing in this new field of endeavor that it wasn't long before Fred became convinced that here was the solution to his own problem. Consequently he too applied for a job at the Stover Co., and was put to work in the company's service department.

With his No. 1 problem, that of a steady income, well in hand, he promptly set about to solve Problem No. 2 in an equally direct manner. He married his college sweetheart. His personal dilemma thus resolved, he then proceeded to direct his attention to the matter of "getting ahead in the world".

Fred liked refrigeration work, and being mechanically inclined he caught on quickly. He never had any formal schooling in refrigeration, but he spent most of his spare hours studying any kind of technical material on which he could lay his hands. For the first few months that he was with the Stover Co, he made all his service calls in the company of a more experienced employee. This helped a

lot, but he still confesses to having made plenty of mistakes when he started making calls by himself. "In those days," he wryly recalls, "if you couldn't locate the trouble the stock formula used to be to simply add refrigerant to the system."

Builds Own Business

As time went by, Fred continued to absorb every bit of refrigeration information which came his way, and it wasn't long before he felt that he had acquired sufficient basic knowledge of the field to enable him to strike out on his own. He had been with the Stover organization for only about two years when he left that firm to set himself up in business as an independent installation contractor, with a working agreement to handle all installations for the local electric utility, the Milwaukee Electric Railway & Light Co.

This new business venture progressed quite satisfactorily for awhile, and at one time the youthful entrepeneur had as many as 8 or 10 men working for him. Most of their jobs consisted of installing multiple systems in apartment houses, brine systems in butcher shops, and similar systems in other establishments.

Yes, things really were looking up for this budding business man. Then came the depression!

By 1932 the effects of this nationwide economic collapse had really hit Fred Boehme's business a staggering blow, but somehow he managed to keep his foundering organization afloat. Retrenchment followed retrenchment, until at last, in 1934, he had only one employee left.

At this point Fred aligned himself with the local Kelvinator distributor, Morley-Murphy Co., where he handled both installation and service on Kelvinator domestic units. Still operating independently, he rented space in the Morley-Murphy building in which to handle the shop work involved in servicing that company's equipment. As general business conditions improved, the volume of Fred's new business increased and his operations expanded to the point where he was forced to seek quarters of his own. This move led eventually to the present headquarters of Fred E. Boehme, Inc. at 454 N. Plankinton Ave. which the firm has occupied for more than six years.

It was not until November, 1945, however, that Fred actually incorporated his organization, with himself as president and treasurer, Frank Hiltonberry as vice president, and Arthur Beyer as secretary. Both of these men were "old timers" as employees go, having worked with Fred for more than 10 years.

As the organization is now set up,



This is the home of Fred E. Boehme, Inc. The company's showroom and offices are in the corner of the building, while the service shop extends to the rear.

the vice president is in charge of all sales activities, with one man working directly under him; the secretary directs all installation and service work, heading up a crew of seven or eight men for this purpose; and Fred Boehme himself, in his capacity as president and treasurer, maintains a constant supervision over the firm's

overall operations.

Only in cases of actual emergency does Fred do any active service work any more, but nevertheless he still doesn't wear his "soup and fish" to work. He shows up every day dressed in regular shop working clothes, ready for anything that may come up. He follows this practice partially for its psychological effect upon customers. "After all," he reasons, "we're primarily an installation and service firm, and if a customer or prospect sees the boss himself in working clothes he automatically figures that here's a crowd that know's what it's doing.'

Fred still chuckles about one occasion, however, on which this philosophy backfired. Some time ago during a particularly busy period Fred had personally gone out on an especially troublesome household service call. He made what seemed to be the necessary repairs and returned to the office. Next day the irate housewife phoned in to complain that her refrigerator was on the fritz again. "And this time," she stormed, "send out someone who knows his business send the boss!" Although somewhat taken aback, Fred did the only thing he could. He meekly said "yes, ma'am," and proceeded to send out one of his service men, who repaired the unit to the woman's complete satisfaction.

The company still handles Kelvi-

nator equipment from both a sales and service standpoint. In addition, it sells and services a variety of other types of commercial refrigeration and air conditioning equipment. Fred figures on his contract service work, however, to carry the company's overhead, while the proceeds from other work go to cover additional expenses and boost the firm's profits. Operating on this basis, the company manages to gross approximately \$140,-000 per year.

Sales contacts are developed principally by extensive personal canvassing and through leads turned in by the company's service men. The salesman is paid a commission, while the service men work on an hourly rate basis. Further training for the service men is provided by a 2-hour school period which Fred himself conducts once each week during the slack season.

For more than 10 years now the firm has been keeping a continuous customer file which at present contains more than 10,000 names. The way this file is set up, a separate envelope is provided for each name, with all of each customer's service records contained in his own individual envelope.

In addition to its rather crowded showroom, the present quarters of the Boehme organization includes private offices for Fred and his associates, as well as a general office for stenographic and bookkeeping help, a sizeable parts department, and an ample service shop. The company operates four trucks, including a 1-ton stake model, a 1/2-ton pickup, and 11/2-ton model with a hydraulically operated tailgate for loading and unloading heavy pieces of equipment. This latter job is Fred's personal pride and joy. The day it was delivered he was as tickled as a kid with a new toy, running the tailgate up and down a number of times just to watch its operation.

Continued on page 50

Fred finds relaxation in helping neighborhood children acquire some of his own skill at his woodworking hobby. Here, in the workshop which he has set up in the basement of his home, he coaches one of his prizewinning pupils on how to rough out a block for a whittling project.



REFRIGERATION INDUSTRY



LUD EMDE HEADS WATER COOLER MEN

Lud Emde, vice president of Temprite Products Corp., Detroit, Mich., was elected chairman of the Drinking Water Cooler Manufacturers Association at its



Lud Emde

annual meeting held in Pittsburgh, Pa.

Also elected were C. M. Cordley, president of Cordley & Hayes, New York City, as co-chairman and J. F. King, vice president of Halsey W. Taylor Co., Warren, Ohio as treasurer.

A committe consisting of John Drake, Norge Div., Borg-Warner Corp.; Wm. Mays, Cordley & Hayes; Edward South, Frigidaire Div., General Motors Corp.; and E. A. Barket, General Electric Co., was appointed to review statistics and marketing services of the Association and make recommendations at the next meeting for reporting sales by trading areas as well as on a unit basis.

NEW ACE AGENT

Dubov Sales Co., of New York City has been named by Ace Cabinet Corp., as representative of its products to the hotel and restaurant supply trade in the New York area. The Dubov company is located at 401 Broadway.

HUPP CORP. TO MAKE DRINK DISPENSERS, FOOD FREEZERS

Hupp Corp., is expanding operations at its Cleveland plant and is adding employees preparatory to starting production on an automatic drink dispenser and its own line of home and commercial freezers.

This Detroit-Cleveland industrial firm, formerly the Hupp Motor Car Co., already has a contract to sell a large number of the dispensers to Pepsi-Cola Co., reports Ralph H. Geddes, Hupp president.

For the past two years Hupp has been making

PACIFIC FIRM IS REORGANIZED

Pacific Mfg. Co. has succeeded Pacific Mfg. Corp., and production of the company's new Model 60W window windown at the All-Industry Show last January and will be under way shortly, reports H. C. Toth, president.

The new organization will continue to merchandise its equipment through the same distributor and dealer channels utilized by the former firm, Toth declares

BALTIMORE AIRCOIL REDUCES PRICES

Baltimore Aircoil Co., Inc., manufacturer of evaporative condensers exclusively, has announced a reduction in the price of its condensers. This reduction, according to president John Engalitcheff, Jr., has been made possible by reduced manufacturing costs which have been effected through increased production and greater production efficiency.

While the company hopes to maintain these lower prices as a curb against further inflation, Engalit-cheff warns that continued price increases in supplies might force price raises.

freezers for Whiting Corp. The firm's Cleveland works now will produce its own freezers while continuing to produce those for Whiting. This program follows a decision made by Hupp some time ago to inaugurate a manufacturing activity which would identify the Hupp name with a consumer product, according to Don H. Gearheart, vice president.

The company will produce two home freezer models under its own name, one of 5 cu. ft. capacity and one of 12 cu. ft. capacity, in addition to a larger freezer for commercial purposes.

The new drink dispenser, an automatic coin-operated vending machine, will sell for \$450, it is reported. Further expense is saved the purchaser through provision for proprietor servicing of the machine. Under the Hupp plan each store manager will insert the gallon cans of syrup to operate his own machine.

E. G. BIECHLER DIES; EX-FRIGIDAIRE HEAD

Elmer G. Biechler, first president and general manager of Frigidaire Div., General Motors Corp., died in Dayton on July 5.

His career bulks large in the story of Frigidaire's rise to leadership, for 30 of his 58 years were spent with Frigidaire and with Frigidaire's parent company, Delco Light.

When the Delco Light Co. was formed in 1916, Biechler was appointed traffic manager and purchasing agent. Successive promotions carried nim through the posts of assistant sales manager and sales manager. In September, 1924, when R. H. Grant, Sr., Delco Light president, was transferred to the Chevrolet Motor Co., Biechler succeeded to the office of president.

In 1926, the Frigidaire Corp. was created and he became president and general manager, serving continuously until 1943.

VETERAN M-H EXECUTIVES HONORED



More than 500 veteran employees of Minneapolis-Honeywell Regulator Co. attended a mid-year dinner at the Nicollet Hotel in Minneapolis at which 40 pins denoting from 20 to 40 years service with the company were awarded. Recipients included H. W. Sweatt (left), president of the company, who received a 35-year pin, and Mark C. Honeywell (right), chairman of the board, who was given a 40-year pin. -Both executives received their awards from Willard L. Huff (center), executive vice president.

order to eliminate expensive "callbacks" many service men and contractors standardize on Henry Products.



For relieving to atmosphere or to low side of system. Initial leak pressures 90 to 300 p.s.i. Conventional and diaphragm types. Fast accurate reseating. Complete range of sizes from 1/8" thru 2". Furnished for all refrigerants.



Sold by leading wholesalers

VALVE COMPANY HENRY



Control Devices, Valves, Driers, Strainers and Accessories for Refrigeration and Air Conditioning and Industrial Applications.

3260 W. Grand Ave., Chicago 51, III. . Cable: HEVALCO Chicago

SHANK VALVES

SOLVE MAINTENANCE **PROBLEMS**



All-Steel **GAUGE SETS**

All-Steel construction. Automatic shut off of liquid in case of glass breakage. Composition packing rings give long life, no-leak seal.

Semi-Steel SHUT-OFF **VALVES**

Highest grade nonporous metal - full size ports — clean cut threads. Double seated stem-Shank design base - perfect alignment. Long life packing ring.



See your jobber or write for prices.

CYRUS SHANK CO. 631 W. Jackson Blvd., Chicago 6, III.



MINI-VOLT

Instantly read voltages right off dial. 65 to 660 v. AC. Also DC. Virtually burnout-proof. Guaranteed for 10,000 hours' operation. Plastic case. 12" flexible test leads. And only \$2.50 list!

• Not only distinguishes between 110, 220 etc. volts, but measures line voltage close enough to show up to 2 or 4 volt drep between meter and load terminals en 110

meter and load terminals on 110 v. line.

No refrigeration serviceman need now be without definite knowledge of whether faulty operation of motors, magnetic valves, etc. is due to improper terminal voltage.

Checks for blown fuses, accidental grounds, circuit centinuity. Useful for electrical troubleshooting in general.

Warns of "live" wires and equipment, as protective measure.

It's a "must." Saves time, money, life and limb! Order from supplier, or from

INDUSTRIAL DEVICES, INC.



SERVICE IS KEYNOTE OF OBERC'S NEW WHOLESALING HEADQUARTERS



- Main Entrance
 Service Counter
- 3. "Customers Only"
- 4. Loading Dock
 5. Warehouse

All photos by Austin Jones, Kerotest Mfg. Co.









1—Part of the Oberc staff stands proudly at the entrance to the new building. Left to right they are: Norma Oberc, one of the boss's daughters; Joe Oberc himself; Bert Smith, manager of Oberc's Lansing, Mich., branch; A. J. Mattes; Miss Ercil Cooley; E. A. Germain; Clarence E. Blay, manager of the East Side branch; Kay Hooper; Phil Padgett; and Kurt Hahn. 2—A view of the service counter. 3—Mike Maksym of M & S Refrigeration Engi-

neers, Detroit, makes use of the "customer's telephone office" while A. B. Brady of Dole Refrigerating Co., and Hugh A. Smart of Refrigeration Appliances, Inc., wait their turn outside. 4—Messrs. Mattes, Padgett, and Oberc watch admiringly as one of the company's trucks, equipped with automatic lift tail gate, backs up to the loading dock. 5—Mattes operates the fork lift truck as he demonstrates the ease of stacking heavy crates in the warehouse.

Built with an eye to fastest, most convenient service for customers is the new home of J. M. Oberc, Inc., pioneer Detroit wholesaler of refrigeration parts and supplies. More than 500 friends and customers helped Oberc to open its new home officially on June 19.

Oberc's new headquarters building, at 55 Oakman Blvd. in Highland Park, is centrally located in the greater Detroit area and accessible by all main highway routes. The building 158 x 100 feet in size, has 15,800 sq. ft. of floor area, of which approximately 11,000 sq. ft. is warehouse space.

Planned by Joe Oberc, head of the company, for maximum customer service and convenience, facilities include a sales counter 63 feet long: a stock room right behind the counter, with open steel shelving 84 inches high, marked and cataloged for fast, easy selection of parts; a display floor 73 x 22 feet for display of various types of unitary equipment; a special "customer's room" with desk and telephone, exclusively for customer use;

and a loading dock, at one side of the warehouse area, which will accommodate two trucks at a time.

Dock facilities, besides taking care of customers who have heavy equipment to load, also is sufficiently large to handle large semitrailer deliveries coming into the warehouse; and it doubles as a garage for the two Oberc delivery trucks. It is enclosed, and heated for winter use

Fronting the building opposite the sales counter and display floor are offices for the Oberc staff. These are glassed in below eye level, so that customers and Oberc staff members can see one another at all times. This encourages a continuation of the close personal contact which the Oberc organization has always maintained with its customers.

Terraced stands, of sheet steel, are located at various points along the counter and used for merchandising of small items of supply. The counter is specially lighted, and immediately above is a display area for enlargements of manufacturers' advertisements.

Another customer service

feature of the new Oberc home is an auditorium 22 x 50 feet suitable (and available) for meetings of groups or organizations among customers, or for meetings sponsored by the Oberc organization itself. Complete kitchen facilities adjoin the auditorium.

Parking facilities for 20 cars are across the street from the Oberc building, and an additional 500 linear feet of parking space is available along the streets at the front and side of the building.

YORK SEALS ENTIRE REFRIGERATING UNIT ON WINDOW COOLERS

Perfection of a hermetically sealed refrigerating unit in which the complete refrigerating system, not just the motor and compressor, has been sealed, has been announced by York Corp. as a feature of its new line of window-sill room conditioners.

Because this new development makes the room conditioner both tamper proof and trouble free, the company is backing its new achievement with a 5-year

guarantee.

In the event that trouble should develop, a new replacement unit can be installed on the spot in a matter of m in u tes, the company claims.

PRESSTITE NOW SELLS COAST TO COAST

Presstite Engineering Co., St. Louis manufacturer of specially engineered materials for sealing out moisture, has expanded its service facilities through the addition of two new sales offices.

An East Coast office with James W. Bampton in charge has been opened in the Times Medical Building, Philadelphia. Harry A. Lowry has opened a West Coast sales office at 5960 Willowcrest Ave., North Hollywood, Calif.

NEW ALPHA OUTLET

The Koehler-Pasmore Co., 11833 Hamilton Ave., Detroit, Mich., has been appointed sales representative of the Alpha solder line produced by Alpha Metals, Inc., Brooklyn, N. Y. The company will represent Alpha in the entire state of Michigan.

REWA DIRECTORS MEET IN DULUTH

The board of directors of the Refrigeration Equipment Wholesalers Association has planned a two-day meeting August 18 and 19 at the Duluth Hotel, Duluth, Minnesota.

Arrangements for this meeting are being handled by Frank R. Pond of Refrigeration & Industrial Supply Co., Inc., Minneapolis. REWA President Harold G. Stern of Refrigerative Supply, Inc., Seattle, Wash., plans to attend this meeting. According to H. S. McCloud, REWA secretary, several important matters are on the agenda.

DETROIT FIRM SPLITS COOLING BUSINESS

Announcement has been made by Harvey A. Shuler, president of Mechanical Heat & Cold, Inc., of the formation of an entirely new company to be known as Temp-Matic Wholesalers, Inc., to handle the parent company's growing wholesale business.

Other officers of this new concern include E. W. Peterson, vice president and treasurer, and T. H. Mabley, secretary. These men, together with Mr. Shuler, bring to Temp-Matic an average of 27 years of experience in the engineering and sale of automatic heating and air conditioning equipment.

Temp-Matic Wholesalers has been franchised to sell direct to dealers in southeastern Michigan the following products: Westinghouse package air conditioners: York-Heat line of heating equipment; J & C furnaces: Afco overhead Jud Whitehead, units: Security, and Evans water heaters; Quick-Heat furnaces; Uniflow pumps and other famous name products manufactured by Silent Korth, Viking, Coolaire, Climax, Hotstream, and others.

A. O. Fredrick, former sales manager of the wholesale division, will be in charge as general sales manager of the new firm. Dewey Hildebrecht, former Field Service Engineer of York-Heat, has been added to Mr. Fredrick's staff.

Mechanical Heat & Cold, Inc., will continue to handle the contract sales of installed systems.

THEATER COOLING

With installations now being processed by Carrier Corp. distributors in all parts of the world, air conditioning for theaters has forged to the front as one of the principal markets of Carrier's International Div., according to latest reports.

Theater air conditioning has revived on a big scale after the long war years when equipment for new installations was unavailable. In the design of new theaters everywhere, air conditioning is being treated as an integral part of the structure, according to Heman Greenwood, Carrier vice president in charge of the International Div.

Following is a list of 20 theaters in various cities of the world which are currently being air conditioned with Carrier equipment.

Bassili Cinema and the El Shark Theater, Cairo; Eugenio Theater, Life Theater, State Theater and Theodora Theater, Manila; Cathay Theater and Rex Theater, Singapore; Teatro Florida, Santiago, Chile; Habid Theater, Tel Aviv, Palestine.

Hollywood Theater, Beirut, Lebanon; Liberty Cinema, Bombay, India; Cinema Majestic, Buenos Aires; Metro Theater, Tucuman, Argentina; Metro Theater, Valparaiso, Chile; Metro Theater, Barranquilla, Columbia; Teatro Municipal, Call, Colombia; Princess Theater, Durban, Union of South Africa; Cinema Rialto, Alexandria; Cine Victoria, Montevideo, Uruguay.

MARLEY OPENS OFFICE IN PHILADELPHIA

Marley Co. Inc., manufacturer of cooling towers, water cooling equipment, and spray nozzles, announces the opening of a new district office in Philadelphia at 1112 Packard Building. Robert M. Sharp is in charge.

Sharp recently completed a five-months' intensive training program at the home office in Kansas City in preparation for his new appointment. A native of New Jersey, Sharp has been associat'd with cooling tower manufacturers for several years.

44TH ASRE MEETING SET FOR WASHINGTON

The 44th annual meeting of the American Society of Refrigerating Engineers will be held December 5-8, 1948, in Washington, D. C., it has been announced by C. F. Holske, president of the Society. Headquarters for the meeting will be Hotel Statler.

The Society's Baltimore-Washington Section will be host for the occasion.

NEW SELLING PLAN FOR BILT- ON PUMPS

The pump division of Byron Jackson Co., Los Angeles, recently announced a new merchandising plan for its line of "Bilt-on" pumps.

L. C. Kimball, general sales manager of the division, explained that these are designed with interchangeability of basic parts. With 8 cases, 8 motors, 9 impellers and a stock of small parts it is now possible to assemble a Bilt-on Pump that will handle capacities from 10 gpm to 600 gpm at heads up to 340 feet.

There are 322 pump combinations a v a i lable with the plan, according to Kimball, and the units are particularly easy to assemble since the Bilt-on has a single shaft common to both pump and motor.

A complete sales and engineering manual with graphical solutions for assembly of the basic parts is supplied to jobbers and dealers.

LANGSENKAMP GETS NEW BRANCH AID

Robert Schreiber, formerly of Betz Corp., has joined the refrigeration supplies wholesaling organization of the F. H. Lansenkamp Co., Indianapolis, as assistant to Jerrell Cassady, who is in charge of the company's South Bend and Fort Wayne, Ind. stores. Schreiber will be located at South Bend.

N. Y. JOBBER MOVES

Paramount Electric Supply Co., Inc., New York City wholesaler of refrigeration equipment and supplies, is moving its store to a new location at 19 Beekman St.

TWO 25-YEAR MEN FETED BY AEROVOX

William C. Hitt of Los Angeles and Harry Gerber of Boston have been honored by Aerovox Corp., for their 25 years of service to the company and its customers.

M. Myron Owen, Aerovox president, presented illuminated scrolls and appropriately engraved wrist watches to the firm's Pacific Coast and New England sales representatives who began their career with Aerovox within a few months of each other, when the company was just getting its start a quarter of a century ago.

LEVEL PRODUCTION IS CROSLEY AIM

Crosley Div., Avco Mfg. Corp., has announced that it is about to start the construction of a large warehouse adjacent to its refrigerator plant in Richmond, Indiana. This warehouse is to be used for the storage of complete refrigerators.

The company is manufacturing a complete line of models for various uses, and it is the company's intention to manufacture on a uniform schedule as far as possible throughout the year.

Consumers do not purchase refrigerators in equal amounts during the year, and it is necessary to provide facilities for storing refrigerators in the off-seasons so as to have them available during the peak seasons.

Length of the new warehouse building will be 1000 feet and the width 200 feet, making a total of 200,000 sq. ft. of floor space. It will join the manufacturing plant by an underground tunnel located at the north end of the build-

The warehouse will be capable of storing 50,000 refrigerators at one time. Dock space for shipment by truck and rail has been provided so that direct shipments may be made from the warehouse as well as the plant. A 300,000 gallon reservoir will be located under the building to provide addicional fire protection for the manufacturing building and the warehouse.

BRUNNER

REFRIGERATION helps you serve better

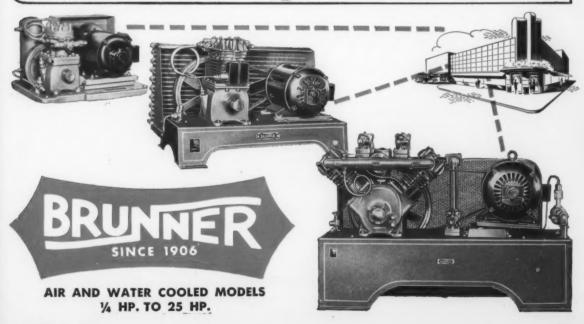
Memo to Maintenance Engineers

15%=10%

'Tain't so you say, but consider this: often less than 15% of the installed cost of a refrigerated display case, walk in cooler or similar refrigerated equipment is represented by the actual refrigeration unit. Now think: the entire usefulness of that equipment and the value of their contents is fully dependent upon the uninterrupted operation of the refrigeration unit.

Your customers realize this. That's why they look to you, on both new and replacement installations, to provide refrigeration units that will give full usefulness and protection to their refrigeration dollars. Satisfied customers are your best source of income—protect it—install Brunner.

BRUNNER MANUFACTURING CO.
UTICA 1, NEW YORK, U. S. A.



MAN OF THE MONTH ...

Continued from page 44

Always interested in any sort of organizational activity which he felt would help his own business, Fred took an active part in the preliminary discussions held at Chicago in December, 1945, which led to the formation of the National Association of Refrigeration Contractors. He was present again at Cleveland the following month when the NARC was formally organized. In March, 1946,

he became president of the Refrigeration Contractors Association of Wisconsin. He is currently serving as sergeant-at-arms of that group.

All of this, as you can well imagine, makes Fred Boehme a mighty busy man. But he's not too busy to take time out occasionally to enjoy his family and indulge in his favorite hobby.

As mentioned previously, three of his five children already are taking an active part in the conduct of the business. Agnes, 19, and Mary, 18, carry the brunt of the secretarial and clerical work, while 16-year-old Freddy is breaking in on the installation and service end of the business. Inasmuch as the two girls are still attending Mount Mary College and Freddy has not yet finished high school, their work naturally has to be confined to Saturdays, afternoons after school, and the summer vacation period. But their dad is mighty proud of the way they are all taking hold of their respective jobs.

The other two children, 14-year-old Betty and 7-year-old Joey, aren't

THE Wolverine Tube Div. of Calumet & Heela Consolidated Copper Co., Inc., has announced completion of a new, 16 mm movie—"Quality Control—From Ore to Finished Product."

The film follows copper ore from deep in the Calumet & Hecla mines in Upper Michigan, through its fabrication as seamless, non-ferrous tubing, and on to typical end applications.

quite ready to step into the business yet, so they remain pretty much under the jurisdiction of Fred's wife, Marie, who masterminds the modest Boehme bungalow at 3031 N. 60th St.

Carpentry and cabinet work is virtually Fred's only hobby, outside of his business and his family, and it absorbs a great deal of what little spare time he can call his own. In order to enjoy this hobby as fully as possible. he maintains a rather complete woodworking shop in the basement of his home-a shop which, he regrets, he doesn't get to use nearly as much as he would like to. He has managed, however, to make quite a few pieces of furniture for his family's home and the company's office, and for the last three winters he has spent considerable time working with neighborhood kids on their various projects for the Catholic Youth Organization's annual hobby show. And the fact that these kids have been able to walk off with one first place, two seconds, and a third, in this year's competition is rather eloquent testimony to Fred's abilities as a tutor. This, as he frankly admits, is a source of no little pride to him as well as to the kids.

Maybe this is sort of "telling tales out of school," but Fred's daughters relate another incident which indicates that Fred is a pretty soft-hearted sort of guy beneath his quiet and seemingly stern exterior. It seems that during the war, in an effort to alleviate the meat shortage, the family took to raising rabbits as a source of



BS&B SAFETY HEADS

Protect receivers and copper tubing from rupture. Save compressors from destructive over-pressure. SAFETY HEADS offer that positive margin of safety that prevents such accidents. Eliminate costly equipment losses . . . save on costly shut-downs. The simple rupture disc of the SAFETY HEAD absorbs the shock of over-pressure . . . bursts in tension at pre-set pressure.

SAFETY HEADS provide a full-throated, pipe-sized escape point. Fractured discs are easily, quickly replaced. Tamper-proof, fool proof SAFETY HEADS offer you guaranteed performance. A wide selection of types assures you of tailor-made protection. Write today for complete details. Address Special Products Division, Black, Sivalls & Bryson, Inc., Power and Light Building, Kansas City 6, Mo.



food. But Daddy, the girls report, became so fond of them that he didn't like to kill them. And rabbits being rabbits, it wasn't long before the Boehme family had about 18 of them on their hands. At that point Mama finally put her foot down, and the whole deal was liquidated. The only souvenir that remains of this experience is a pile of pelts which Fred originally intended to make into mittens for his daughters. But somehow he just never has found the time.

So there it is—the story of a man who has made a pretty obvious success of both his business and his personal life. Yet the refreshing thing about it all is that he insists upon placing the credit almost everywhere but on himself. "I have a lot of friends, both in and out of the refrigeration business," he states simply, "and their advice has helped a lot all along the line."

Fred Boehme's answer to the traditional query—"What is the secret of your success?"—is pretty pat. "A man's success," he declares, recalling an old quotation, "depends upon his walking along just the right street at just the right time."

DESIGN PROBLEMS...

Continued on page 38

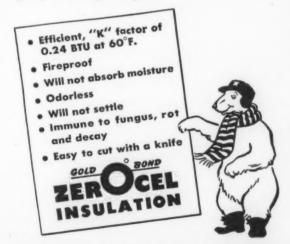
22 system and a series of electric heaters to a constant temperature within -5 to 10 degrees of the temperature required within the box. The flow of the secondary refrigerant to the coil within the box is regulated by a three-way by-pass valve. This valve responds to the action of a 24 B&S wire gauge thermocouple located within the cabinet, which operates the valve through the Brown potentiometer recorder located on the panel board of the unit.

The control of the secondary refrigerant at the constant temperature is accomplished by controlling the action of a second three-way by-pass valve which controls the flow of hot or cold refrigerant to a mixing tank. This valve, which is responsive to the action of a temperature sensitive element located in the line leaving the mixing tank, draws hot or cold refrigerant, as required, from the strip heaters or brine chillers (Freon-22) and mixes it with return refrigerant from the coil to maintain a constant secondary coolant temperature within the mixing tank.



AVOID fire hazards and protect your investment too. Build your locker plant of fireproof materials—including insulation! Gold Bond Zerocel Insulation is as fireproof as the rock from which it's made. It simply can't burn! And it has all the other qualities you need and expect in top grade insulation.

Leading builders and operators of locker storage plants specify Zerocel for three important reasons: perfect insulation performance, fire protection, and economy. A special booklet with detailed drawings showing the best method of installing Zerocel will gladly be sent upon request.



SEND FOR FREE BOOKLET TODAY

National G Gentlemen: Gold Bond				copy of the	new
Construction	n."		.,		1-8
Name		 			
Company		 			
Street		 			

CONTESTS SELL SERVICE . . .

Continued from page 31

dollar volume. Owner Bourland provides the incentive, in the form of a dinner served once a month during which each member of the prize-winning team enjoys a big Texas T-bone steak, while the losing team members eat merely a plate of beans.

During periodic intervals, when it is desired to build service more rapidly, the management provides extra prizes, in the form of a home freezer to the serviceman who individually turns in the largest dollar volume, new suits of clothing for second and third prize-winners, and an electric shaver to the fourth-place man.

Frequently the contests are stepped up so that there are two or more over a single. 30-day period. As soon as one contest ends, another begins, and there is much intense competition between the two teams to get as many service calls turned over as possible.

Incidentally, if there is a complaint, or necessity for a free callback on any such job, an extra penalty is applied—to make certain that every service man turns out work which the Bourland concern can thoroughly back up.

Servicemen are paid special incentive bonuses in addition to the prizes won in the contest. They also participate in a profit-sharing plan. Through good training, and careful selection of young married men with the future in mind, the company has had little or none of the high personnel turnover which has dogged the steps of other large-scale service organizations.

Service is heavily advertised by this Fort Worth organization. Colorful newspaper advertising, using two and three color full-page ads, always play up service. Incidentally, the Bourland firm is the only service dealer in the city to make any use of colored advertising, so it is a cinch that ads are noticed widely.



To satisfy the increased need for training in connection with the com-



C. S. Trigg

pany's expanded product lines, Frigidaire Div., General Motors Corp., has created a new product and sales training section within the framework of the sales promotion department. This

section will be responsible for the development of product and sales training programs and materials for all products.

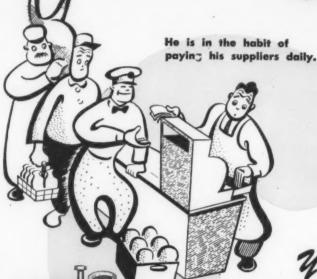
C. S. Trigg, former appliance product promotion manager, has been promoted to manager of this new section. He has been associated with Frigidaire for 20 years, and has had broad experience in sales, service, production, and engineering fields.

Two assistant sales training managers have been appointed to assist Trigg. E. C. Lewis, director of a new factory commercial school, has been promoted to assistant sales training manager in charge of commercial refrigeration and air conditioning training. R. M. Bell has been named to serve as Trigg's assistant in charge of appliance training phases.



HOW TO SELL REFRIGERATION TO THE PROSPECT WHO SAYS

I NEED NEW
EQUIPMENT
BUT I DON'T HAVE
THE MONEY
FOR IT



As a result, at the end of the month there is not enough left to pay large down payments and lump sum monthly payments.

Your Answer Is

THE METER PLAN

OF DAILY SAVINGS

Your Customer Deposits Just a Few Quarters a Day.



Meter-Matic DM6 Meter

- . LOW IN PRICE
- . FULLY GUARANTEED
- . IMMEDIATE DELIVERY

MAIL THIS COUPON TODAY

INTERNATIONAL REGISTER CO.

2626 W. Washington Blvd. Chicago 12, Illinois INTERNATIONAL REGISTER COMPANY Dept. 88M - 2626 W. Washington Blvd. Chicago 12, Illinois

Please send me FREE:

- ☐ Meter Catalog
- ☐ Meter Plan for Selling Commercial Refrigeration

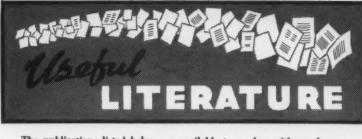
A.F.

Mr .

Street

City...... Zone... State......





The publications listed below are available to readers without charge. Simply list on the postcard provided in this issue the numbers of the items you wish to receive, and send it to THE REFRIGERATION INDUSTRY, 1240 Ontario Street, Cleveland 13, Ohio. Your requests will then be forwarded directly to the companies concerned.

307—Motor Capacitors . . . An 8-page folder containing the complete story on a line of motor starting capacitors, with tips on proper replacement and wiring diagrams illustrating their use. Selection tables for both electrolytic and oil capacitors are included. Available from Sprague Products Co.

308—Air Conditioning Units... A series of catalog sheets illustrating, describing, and listing specifications of a line of commercial air conditioners, package air conditioners, and evaporative condensers for both Freon-12 and ammonia. Complete diagrams of each unit are provided. Available from Worthington Pump & Machinery Corp.

309—Commercial Cabinets . . . Specification sheets on a line of stainless steel reach-in refrigerators, self-contained

beverage coolers, and ice cream cabinets. Each unit is illustrated and its features listed. Available from General Refrigerators Corp.

describing and illustrating a new line of magnetic motor starters and contactors in Sizes 0. 1, and 1½. Cutaway views point up each feature and dimensional drawings are provided. Tables of electrical ratings and a selection guide for overload relay heaters also are included. Available from Penn Electric Switch Co.

311—Room Cooler . . . A folder highlighting the features of the Model 98 "Lake Louise" room air conditioner. 15 features are itemized and keyed on a cutaway view of this unit. Available from Pleasantaire Corp.

312—Evaporative Condensers . . . An 8-page bulletin (No. 809) outlining seven advantages of this type of unit over other refrigerant cooling mediums. Illustrated with photos of actual installations and important construction features, this catalog includes description and diagrams of operation and recommended application and a page of specifications and engineering data. Available from Vilter Mfg. Co.

313—Cooling Coils . . . A 36-page catalog (No. 400) and accompanying data bulletin on a redesigned line of cooling roils with non-ferrous extended surface. These publications contain complete and detailed information on coil construction and specifications. Pages of tables covering coil ratings and selection procedure are included. Available from McQuay, Inc.

314—Food Freezers . . . A 42-page catalog covering the new 21-model line of "Silverfreeze" cabinets for food freezing as well as low and normal temperature storage. Complete specifications, features, and diagrams of each model are presented. Available from R. H. Bishop Co.

315—Power Units . . . An 8-page folder containing detailed and capacity data on the "Supermetic" line of hermetically sealed power units. Illustrated with photographs, detail drawings, and dimensional diagrams. Available from Servel, Inc.

316—Frozen Food Shippers . . . A 16-page catalog (No. 200) covering the "Shamrock" line of canvas covered, cork insulated food shippers, solid CO² shippers and storage containers, and related products. Available from Meese, Inc.



 The simplest device you have ever seen to warn of mechanical troubles. Designed for use in any low temperature cabinet. Can be installed in two minutes by anyone.

Buzzer, battery operated. Trickle charger insures five-year battery life. Buzzer operates 100 hours. Actuated at plus 12° f² op mercury contact. No thermostat to get out of order. Action is as positive as gravity.

A package item that sells itself on the first service call, or to new owners of freezers.

Immediate delivery. Write us for details and discounts.







KELVINATOR parts are priced <u>right</u> ...always <u>right</u> for the job!

You're *right* on every job when you use the *dependable* Kelvinator-made parts available from your Kelvinator Parts Depot.

You'll like Kelvinator's time-saving "one-stop" service... where you can choose from a complete line of Kelvinator-made refrigeration parts that are "tops" for quality—and competitively priced!

Stop in at your nearest Kelvinator Parts Depot some day soon. You're sure to find exactly what you want—and you'll like the fast, friendly Kelvinator service. Mail or phone orders handled promptly... Kelvinator, Division of Nash-Kelvinator Corporation, Detroit, Michigan.

For condensing units...precision-built for long-lasting, economical service... get Kelvinator. You can be sure that over 30 years of experience in the building of commercial refrigeration brings you the best. And they're competitively priced.





CONDENSING UNITS OPEN AND SEALED

NEAT JOB . . . MORE PROFIT!

MOTOR CAPACITOR HARDWARE



- Be right electrically! Use
 Aerovox exact-duplicate or universal motor-capacitor replacements. And the Aerovox
 Capacitor Selector indicates correct capacitance, when in doubt.
- Be right mechanically! Aerovox motor-capacitor housings, end caps, mounting brackets, do the trick. Minimum stock—maximum variety.
- Yes sir, it's that "good as new" repair that spells satisfied customers, higher prices, more profits, bigger business.

Ask Our Distributor . . .

 Order assortment of Aerovox motor-capacitor hardware NOW.
Keep exact-duplicate capacitor stock for those quick-as-a-flash repair jobs. Ask for catalog — ar write us.



FOR RADIO-ELECTRONIC AND INDUSTRIAL APPLICATIONS

AEROYOX CORP., NEW BEDFORD, MASS., U.S. A. Expert: 13 E. 40th St., New York 16, N.Y. - Cable: 'ARLAB' In Canada: AEROYOX CAHADA LTD., Namiiton, Ont.

M

New

Z

PRODUCTS

For further information on any of these products, simply list the key number at the head of each item on the special post card enclosed with this issue.

Heavy Duty Motors • • P-259

Product: Capacitor start, induction electric motors for heavy duty.

Manufacturer: King-Wyse, Inc., Archbold, Ohio.

Features: Offered in single phase at 1, 1½, and 2 hp, 110/220 volts at 1750 rpm, and in three-phase at 1, 1½, 2, and 3 hp, 60 cycle, 220/440 volts at 1750 rpm. Aluminum alloy housing and bell ends. Rotor is practically indestructible. Prelubrication and sealed ball bearings permit mounting motor in any position. Stators are dual voltage wound. Temperature rise of only 40° C. Overload of 100%. Rotation is electrically reversible by a switch. Frame is drip proof.

Water Coolers • • • P-260

Product: A 7-model line of electric water coolers.

Manufacturer: Westinghouse Electric Corp., Pittsburgh, Pa.

Features: Hermetically sealed refrigeration system which eliminates belts, shaft seals, and flared connections. Oil supply is permanently



sealed in and dust and dirt are sealed out. New pedal control, automatic stream-height control, and built-in carafe filler attachments. All models covered by 5-year protection plan.

Coin Meter • • • P-261

Product: Improved coin meter for time payment sales of commercial refrigeration equipment.

Manufacturer: International Register Co., Chicago.



Features: Designed to handle payments ranging from \$1 to \$6 a day, it operates on quarters only. A large convenient coin drawer holds 1200 quarters (\$300) and provides ample storage to permit monthly collections. To prevent theft the entire case is made of 16-gauge steel, strongly reinforced, with all hinges concealed and all joints welded. A separate compartment for the coins has its own door with a special theft-proof lock. A delinquent payment feature makes it necessary for the customer to pay up installments which have fallen in arrears before refrigeration can be obtained. Fully enclosed clock requires no oiling. Improved terminal block facilitates installation. Switch is rated at 1-hp. Defrauding the meter is overcome with a number of new features including a coin hood, antistacking lever, and anti-jiggle pawl.

Home Freezer • • • P-262

Product: Model 8B home and farm freezer.

Manufacturer: Marquette Appliances, Inc., Minneapolis, Minn.

Features: 8-cu. ft. capacity; holds 250 to 300 pounds of frozen foods. Counter-balanced lid; provisions for locking; illuminated food compartment; hermetically sealed unit; static cooled condenser; cooling coils on all four sides for 97% conductivity. Thermo-breaker strip is made of Panelyte. Insulated with 4½ inches of rock wool.

Door Latch . . . P-263

Product: "Latch-Rite" latch for doors on walk-in and reach-in commercial refrigeration equipment.



Manufacturer: H. Weissinger Co., Philadelphia, Pa.

Features: Easy to open, yet prevents cold leakage by keeping doors properly closed. Completely automatic operation. When door is opened, latch snaps into the position that releases pressure on door. When door is closed, latch resets, thus applying constant pressure which holds door firmly against door frame. Tension screw can be set to exert any desired pressure up to more than 50 pounds. Can be locked in closed position by ordinary bicycle-type padlock. Resists door warping. Emergency release permits opening of door from inside even when door is padlocked.

Capacitor Hardware • • P-264

Product: Expanded line of motor-capacitor hardware.





THERE'S AN EASIER WAY! Use THORS to help prevent sticking freezer doors. THORS is a clean, odorless, semi-solid product. It helps save doors, time and repairs. Treating an average freezer door with THORS costs about four dollars a year. So THORS probably will save you money, too.

COVER JAMB AND GASKET thoroughly with THORS the first time. Then forget it for weeks! That one application really lasts. All you do is brush off the light snow that forms around gasket leaks.

THORS IS ALSO RECOMMENDED for refrigerator truck doors—and for refrigeration plates and coils. One application of THORS lasts through several defrostings. And THORS cuts defrosting time by about two thirds!

THORS will not corrode black iron, alloy, steel and galvanized metal surfaces and will not affect most gasket materials.

THORS

YOU CAN'T LOSE!

For further information, mail coupon or consult your supply dealer.

STANCO INCORPORATED 216 W. 14th Street, New York 11, N. Y.

Stanco In					t. RI	
216 West	14th	Street,	New	York 1	1, N	. Y
Please				obliga	tion	free

9	Name	×			*	×			*		,	 			×			*	*	,	
	Addres	8	4	. ,				*						,							
													4		_						

Manufacturer: Aerovox Corp., New Bedford, Mass.

Features: In addition to a motorcapacitor housing with mounting lugs, this line now includes a housing with a single mounting bracket, a mounting bracket that fits around the usual round capacitor, and the top and bottom end caps.

Safety Goggles • • • P-265

Product: "Spec-Lite" goggle for protection of entire eye area from sparks, light impacts, liquid splashes,

and other hazards.

Manufacturer: Chicago Eye Shield Co., Chicago.

Features: New type forehead rest, plus balanced temple suspension, practically floats goggle in position. Weight of goggle is only l ounce. Quick adjustability for correct fit on various faces. One-piece plastic lens is quickly and easily replaceable, and offers distortion-free visibility. New design permits comfortable wear over other personal glasses. Available either with clear or glare-reducing green plastic lenses.

Moisture Remover • • P-266

Product: A mechanical device that will hold all moisture that travels through the liquid control and at the same time will keep a liquid control in operation at all times, regardless of moisture or water content of Freon.



Manufacturer: Tech Labora tories, Inc., Jersey City, N. J.

Features: Makes most liquid controls, such as thermostatic expansion valves and capillary tubes, moisture proof and keeps them in operating condition by freezing any moisture and holding it in frozen condition so that it will not travel through the system and can be easily removed. Simply constructed, this device can be applied to most liquid controls on the market today. Prevents freeze-ups and consequent interruptions of service.

Biological Case • • • P-267

Product: Front-counter refrigerated biological display case (Model 50-B).

Manufacturer: Specialty Division, Ultra-Cold, Inc., Los Angeles.

Features: Designed to occupy an up-front position in department stores, drug stores, dispensaries, commercial laboratories, and other retail biological outlets. Requires base space of only 42 inches long by 28 inches wide. Height is 26 inches. Despite small size it contains 10 shelves





The Duo-Therm Thermometer is the newest development in Marsh refrigeration instruments—and a much needed one! For permanent installation in connection with locker plants, walk-in coolers, even home freezers, it gives the owner a means of continuously checking temperature by merely glancing at the easy-to-read dial of the instrument which is provided with five feet of capillary tubing so that it can be located at any convenient viewing point outside the unit. No need to open doors or remove lids. It also provides a thermometer, combined on the same dial, to indicate room temperature. The upper ("freezer") scale reads from —30° to +65° F.; lower ("room") scale, from +20° to +90° F.

at any convenient viewing point outside the unit. No need to open doors or remove lids. It also provides a thermometer, combined on the same dial, to indicate room temperature. The upper ("freezer") scale reads from -30° to +65° F.; lower ("room") scale, from +20° to +90° F.

The large easy-to-read figures and markings are a part of the handsome styling throughout. Case is black enameled with chromium rim. Capillary tubing is slender enough to pass between the door and jamb of any type of refrigerator or quick-freeze unit. A convenient mounting bracket is provided so that installation can be made in a few micrower.

in a few minutes.

Duo-Therm is a "natural" for your customers who operate locker plants, commercial boxes, quick-freeze and storage units in plants, food stores, and homes. It is the finishing touch to every refrigeration job—the constant indicator of the functioning of the refrigeration unit—the safeguard against food spoilage due to power failure, mechanical failure or improper operation.

Write for complete descriptive literature

JAS. P. MARSH CORPORATION, Dept. P. Skokie, III.

Export Dept.: 135 E. 44th St., New York 17, N. Y.

Refrigeration Instruments

equipped with 14 sliding trays, each of which is perforated for maximum refrigeration efficiency. Slanting, double-pane glass front and fluorescent lighting provides maximum visibility. Rear of unit is fitted with two wide doors which swing back flat against case. Completely self-contained. Powered by hermetically sealed condensing unit.

Trailer Unit • • • P-268

Product: Completely automatic temperature controller for trailers.

Manufacturer: Frostrode Products, Detroit, Mich.

Features: Complete packaged unit ready to install in any insulated trailer body up to 34 feet in length. Capable of automatically maintaining any preselected temperature from 0 to 70 F inside the van, regardless of outside temperatures. Weighs only 825



pounds. Has capacity of 24,000 Btu per hour. Automatic defrosting, and push-button starting. Utilizes a 10-hp fully automatic Onan power unit and a 5-hp Servel compressor. Entire refrigerater-heater unit is installed with use of only 4 bolts. Space occupied is only 7.2 cu. ft., and location is high at front of body. All instruments and controls are located on a tilted and hinged panel outside the van. Included on this panel are gauges showing trailer body temperature, oil pressure, charging rate of the storage batteries which form a part of the unit, gasoline gauges, low and high pressure gauges for the Freon refrigerant, a "heat-or-cool" selector switch, and ignition switch.

BUY FROM YOUR REFRIGERATION WHOLESALER

Lightweight Insulation • P-269

Product: Lightweight XB - PF Fiberglas insulation for use in home refrigerators, truck and trailer bodies, and other low temperature equipment.

Manufacturer: Owens - Corning Fiberglas Corp., Toledo, Ohio.

Features: Resilient, odorless, noncorrosive, fireproof, sterile, and chemically stable. Available in standard rolls of 54 inches wide in ½ and 1inch thicknesses. Available in two densities: ½ pound per cu.ft. and 1 pound per cu.ft. Thermal conductivity of the former is .25 Btu per sq.ft. per inch thickness at a mean temperature of 75 F. Thermal conductivity of the 1-pound density under the same conditions is .22 Btu.

Packless Valve • • • P-270

Product: "No. 3000 Series" packless valve.

Manufacturer: Fulton Sylphon Div., Robertshaw-Fulton Controls Co., Knoxville, Tenn.

Features: Surpasses service limitations of conventional valves in pres-



sure or vacuum, as well as temperature. Leakproof construction, with seamless metal bellows forming connection between valve disc and valve body, eliminates costly maintenance required with stuffing boxes, etc. Available equipped with stainless steel bellows and bodies which adapt them for economical service in applications subject to corrosion. For high vacuum service a composition disc in place of a metal disc is available. Available in sizes of ½ inches with screwed, welded, or flanged ends.

Cold Storage Door • • P-271

Product: New type cold storage door for sub-freezing and sharp freezing operations.

Manufacturer: Jamison Cold Storage Door Co., Hagerstown, Md.

Features: Positive means of producing a uniformly tight seal is provided by three patented features—door hinges, fastener, and gasket. Hinges combine self-adjustment with screw regulated spring pressure, automatically seating door gasket. Operation of fastener is completely



automatic and is adjustable through the medium of an exterior adjusting screw. Gasket is made of sponge rubber encased in a water-impervious skin, and is applied to full overlap of door. Front and back operating handles are provided. Front, edges, and frame casing of door are metal clad.

Liquid Wire Stripper • • P-272

Product: "Formula 21" liquid wire stripper.

Manufacturer: Aircraft - Marine Products, Inc., Harrisburg, Pa.

Features: Developed for removing "Formex", "Formavar", enamel, and similar wire insulating coatings. Use is simple: merely dip wire in liquid and wipe off with rag or blow off with compressed air. No scraping, tools, or special cleaning required. Non-corrosive, non-inflammable, and will not harm fabrics, wood or metal. Available in 2-ounce bottles, as well as 1 and 5-gallon cans. Applicable for use in mass production as well as in repair and service of electrically wired equipment.

Bain Marie Case • • P-273

Product: Bain Marie luncheonette case, combining the functions of a sandwich unit, display case, Bain





HEAVY DUTY BEER COOLERS

by Temprite

Out of production since before the war, Temprite heavy duty beer coolers are back again to help you make more money. Now is the time! This is the season! Tell your customers about Temprite. You can now offer 7 new improved models for every type of beer cooling application. Outstanding features include specially shaped stainless steel coils, compact size and patented temperature control.

Write or wire now for details.

TEMPRITE PRODUCTS CORP.

Originators of Instantaneous
41 PIQUETTE AVENUE



Liquid Cooling Devices

DETROIT 2, MICHIGAN

Marie unit, and storage refrigerator.

Manufacturer: Fogel Refrigera-

tor Co., Philadelphia.

Features: Occupies no more space than a Bain Marie alone, but provides large display and storage capacity in addition. Stainless steel Bain Marie top is equipped with 10 covered porcelain containers refrigerated for perfect food preservation. Heavy glass guards provide additional display and extra protection. Hardwood work board for preparing sandwiches and salads. Removable container for waste trimmings. Electric receptacle for plugging in toaster or slicer. Triple-glazed glass display front. Large refrigerated storage space in lower compartment of case. Fluorescent lighting. Porcelain exterior.

Sanitary Meter • • • P-274

Product: Sanitary motor for use in dairies, food process plants, beverage plants, and other installations where sanitation is essential.



Manufacturer: Louis Allis Co., Milwaukee, Wis.

Features: Streamlined and free of cracks, recesses, or depressions where milk or food products can collect. Smaller ratings supplied in totally enclosed, non-ventilated construction which prevents entry of vermin into motor when it is shut down. Larger ratings are splash-proof and supplied with removable stainless steel grille plates over cooling air inlets and outlets. All sizes can be washed down to insure maximum sanitation. Entire base is enclosed by the motor housing, which is finished to a flat surface. Mounting bolt holes are located in accordance with NEMA standards.

Household Evaporator • P-275

Product: "Kwik-Freeze" all copper household evaporator.

Manufacturer: Tenney Engineering, Inc.

Features: Engineered for ease

of installation in standard household refrigerators. Built to accommodate most types of ice cube trays. Shelves also may be used for storage of food trays, instead of ice cube trays. Made of heavy-gauge, cold rolled copper, with self-supporting casing for reinforced shelves. Equipped with spring hinge door, control panel, accumulator, and adjustable hangers. Entire unit protected against discoloration with electro-tin-plated satin finish. Overall sizes of units range from 7 x $7\frac{1}{2}$ x $12\frac{1}{2}$ inches to $10\frac{1}{4}$ x $13\frac{1}{2}$ x $12\frac{1}{2}$ inches.

Kata-Thermometer Kit • P-276

Product: Kata-thermometer outfit for accurately and conveniently measuring air velocities in the range between 10 and 600 feet per minute.

Manufacturer: Precision Thermometer, & Instrument Co., Philadel-

phia.

Features: Complete unit, packed in pocket-sized case, consists of a "Princo" Kata-thermometer, a test thermometer, and a "Kata" reference chart from which the air velocity is determined. Kata-thermometer is allglass, etched stem thermometer about



All Right... where does the Moisture go? THAWZONE DATA

"It sure worked on that job", says Mr. Service Engineer. "But where does the moisture go when THAWZONE acts on it?"

"We'll try to explain", we say. "But please bear with us if our explanation sounds complicated".

Water has the chemical formula H_2O . Chemically, however, it generally behaves as if it were made up of two parts: an H+ (positive hydrogen ion) and an OH- (negative hydroxyl ion). There are various compounds that interact with water to split it up this way. Most of them are unsuited to a refrigeration system.

THAWZONE, however, is a solution of compounds which are suitable. All they do is to "grab" on to the H+ with one part and the OH— with another. The resulting new compounds are complex, but oil-soluble and inert. As a matter of fact, to separate these materials and identify them is almost impossible. This is another indication of their inertness and similarity to the oil normally present in refrigerating systems.

And . . . THAWZONE is economical. Figured on pint quantities, it costs only 8c to treat a pound of refrigerant. Use it in new, re-conditioned or old systems.



10 inches long, with a spirit-filled cylindrical bulb with a large surface area. Cooling action of moving air on bulb is functional principle of instrument. Accurate at low velocities, and indication of velocity is independent of direction of air stream.

Insulation Board • • P-277

Product: "Rubatex" insulation board for low temperature insulation, produced by expanding synthetic rubber into multi-cellular sheets.

Manufacturer: Virginia Rubatex

Div., Great American Industries, Inc., Bedford, Va.

Features: Low heat conductivity; high resistance to moisture and water vapor; light weight; excellent structural strength; practically stable "K" factor of 0.21; rot proof; vermin and termite proof; long life; will not settle; easy handling qualities and easily worked on woodworking machinery; requires no added water vapor barrier; low cost over period of service; requires only about 70% of thickness of cork for comparable insulating job.

Vacuum Gauge • • • P-278

Product: "Televac 500" thermal gauge for measuring vacua within the range of 0-1000 microns.

Manufacturer: George E. Fredericks Co., Bethayres, Pa.

Features: Calibration of this continuously indicating type of instrument is unaffected by the contaminating vapors in the vacuum system. Indicating meter is made especially



for this gauge by Weston and has a scale calibrated directly in microns. A voltage stabilizer is mounted within the portable meter case and eliminates errors due to line voltage fluctuations. No current adjustment or calibration of gauge is necessary before reading. Operation is by means of an off-on toggle switch. Available in either Pyrex glass or metal (illustrated), and will withstand 50 psi pressure without harm.

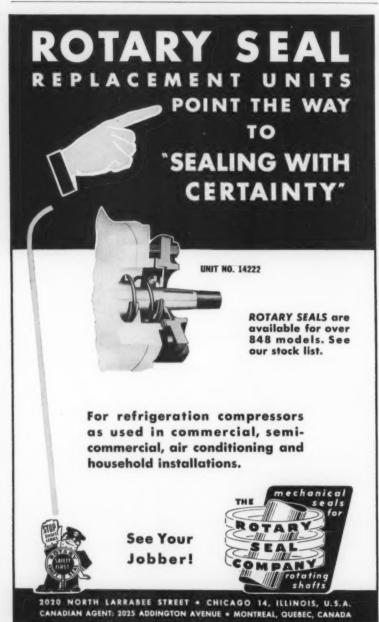
Fan Timer • • • P-279

Product: Portable all-electric timer for automatically shutting off window and other portable fans after any pre-selected period of time.

Manufacturer: Paragon Electric Co., Two Rivers, Wis.

Features: Companion to the Paragon line of manually preset timers for permanent attic fan installations, and except for portable feature are identical in appearance and construction. Housed in compact anondyzed aluminum case, the portable unit is available in two time ranges, 0 to 10 and 0 to 20 hours. Timer plugs into any convenience outlet; fan cord plugs into receptacle at bottom of case. Keyhole slots provide easy mounting.

BUY FROM YOUR REFRIGERATION WHOLESALER



CONTRACTORS & LABOR . .

Continued from page 37

technical and legal understanding of what can and cannot be done to safeguard the interest of the parties they represent.

The entire contract and every clause thereof must be negotiated and written with the view that a third party is sitting in on the drawing up of the contract. That party is the Taft Hartley Act itself, for even a clause agreed to by both labor and management can be effectively vetoed if it violates the Taft Hartley Act.

Coverage of the Law

Again it is reiterated that the Taft Hartley Act applies only to employers and companies engaged in interstate commerce as that term is used and defined by the N.L.R.B. and the courts. Those firms whose businesses are of purely local nature continue unchanged and unaffected by the new law. However, it appears that the coverage of the law has been extended and therefore there will be many concerns covered by the Taft Hartley Act that were not covered by the Wagner Act.

Even before negotiators sit down across the bargaining table, they must determine first whether or not the firm involved is engaged in interstate commerce and the application, if any, of the Taft Hartley

If the Taft Hartley Act applies, then the prohibitions within the Act, making illegal certain types of clauses, must be considered, although these clauses have been in contracts going back as far as the history of collective bargaining in the U. S.

Closed Shop Prohibited

Act

The closed shop is made illegal under any circumstances. No longer may a contract require an employer to obtain new employees from a union, although he may voluntarily take employees from the union. Nor may it require union membership as a condition of employment.

Thus employers are given exclusive control over hiring. Compulsory checkoff of union dues is declared illegal, although under certain circumstances a voluntary checkoff may be legal. The NLRB does not administer this section of the law.

A suit may be brought in court by any injured person and the Federal District Courts are specifically authorized to grant injunctions against these violations, in this way amending the National Labor Anti-Injunctions Act. (Norris-LaGuardia Act).

Unfair Labor Practices

"Featherbedding" practices are made illegal by the Taft Hartley Act. It is an unfair labor practice for a union to cause or attempt to cause an employer to pay or deliver "any money or other thing of value in the nature of an exaction for services which are not performed or not to be performed".

Unfair labor practices apply to unions now as well as employers. The following are some of the unfair practices declared illegal:

1. Coercion of employees in their right to join or refrain from joining unions.

Coercion of employees in the selection of their bargaining rights.

3. Inducement of employers to discriminate against workers by reason of membership or non-membership in any union.

4. Refusal to bargain collectively. The evil being corrected here is the practice of some unions in submitting contracts on the take-it-or-leave-it basis.

5. Certain types of strikes and boycotts including jurisdictional strikes.

6. Excessive or discriminating initiation fee for employees.

7. Causing or attempting to cause employers to make "featherbed" payments.

This is aimed at make-work or other featherbedding practices.

Some advantages of the Act to employers not hitherto possessed by them are;

1. The union shop must be approved by at least 50% of the employees after an election under the jurisdiction of NLRB. There can be no consent between union and employer.

Before certifying a union as a collective bargaining representative, the NLRB must now conduct an election. When the employer declines to recognize the petitioning union as his employees representatives, such an election may still be held on consent.

An employer may himself petition for an election, alleging that one or more individuals or labor organizations have pre-

Wettest systems restored to operation immediately!



prevents freezeup of expansion valve

DFN MOISTURE CONTROL UNIT



Tells if system is wet.
 Thoroughly dries it.

3. Then proves it's dry.

The DFN Moisture Control Unit consists of special heavy-duty dehydrator charged with Ducal Drierite, plus a moisture indicator, assembled with control valves on a mounting board, with base. Portable, ready to use, will service many jobs.

Hot weather shutdowns require fast action to prevent losses. If the trouble is moisture, you can have the system running normally in a few minutes, with the DFN Moisture Control Unit. All refrigerant leaving the drier is so thoroughly dry that the expansion valve operates down to 60° F. Continued running with the DFN Unit for a minimum of 3 minutes per pound of gas in system, removes all but impounded water.

When indicator in the Unit shows dry, put on a DFN permanent drier, charged with Drierite, and seal up system. You then have protection against any impounded water and a guarantee of continued service-free operation of the system.

The DFN Moisture Control Unit is easily attached to the liquid line, where it dries effectively at refrigerant temperatures up to 150° F. One cartridge has capacity to dry the equivalent of ten one-ton systems or 18 teaspoonfuls of water.

See the DFN Moisture Control Unit at your wholesaler. Write us for literature.

McIntire Connector Company 257 Jefferson St., Newark 5, N. J. sented to him a claim for recognition. This claim for recognition must find that a question of representation exists.

4. The employees of any craft, if they so desire, may petition that their craft be carved out of the larger bargaining unit, and as a corollary it precludes the fusion of craft with industry bargaining units where specialized workers desire to be represented by craft rather than by industrial unions.

5. The Taft Hartley Law now provides that striking employees who are not entitled to re-instatement are ineligible to

6. The employers' free speech is safeguarded by specific enactment (8c) providing that the expression of any views,

arguments, opinions, shall not constitute or be evidence of an unfair labor practice, if the expression contains no threat of reprisal or force or promise to benefit.

Changes in the Union Shop Clause

The union shop, as differentiated from the closed shop, may be included in the contract if certain conditions are met. The union must be the exclusive bargaining agent of a majority of the employees. A petition of at least 30% of the employees in the bargaining unit must be submitted to the NLRB requesting a union shop referendum.

The question before the board is and should be, "Do you wish to authorize 'XYZ' union to negotiate with your employer for a contract requiring member-ship in the 'XYZ' union as a condition of employment?"

The union must obtain the affirmative votes of a majority of those eligible to vote in order to request a union shop clause. If a union shop clause is contained in the contract, it must give employees at least 30 days in which to join the union. The Act also gives to 30% of the employees the right to petition for a referendum to rescind the union shop clause.

In some states, the union shop as well as the closed shop is illegal, even after the above described procedure has been followed. The Act states that where a state law prohibits the execution or application of a union shop contract, the state law shall be considered as taking precedence over the Federal Law. In all other provisions of the Law, state laws do not affect the Taft Hartley Act.

Check Off Clause

The check off of union dues is legal only under certain circumstances. The only moneys allowed to be deducted from employees' salaries must be solely for dues or initiation fees. No other deductions are allowable.

Before even these deductions are made from any employee, that employee, in person, must individually and in writing authorize the employer to deduct such dues and initiation fees from his salary. This voluntary authorization can be made irrevocable, but in no case for a greater period than one year.

An employer is specifically forbidden to discharge an employee because of suspension from the union, if the employer has reasonable grounds for believing membership was not available on the usual terms and conditions, or if the employer has reasonable grounds for believing that such membership was denied or terminated for any reason other than failure to pay dues and fees uniformly required.

Apparently then, under the Taft Hartley Law non-payment of dues, or initiation fees is the only grounds the union has in a union shop agreement for requesting the dis charge or suspension of a member.

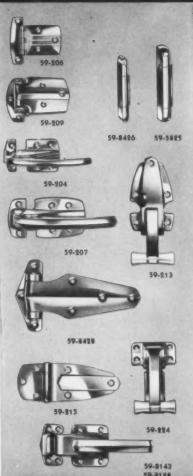
The amount of an initiation fee as related to compulsory membership under a union shop must be one the Board finds as non-excessive or discriminating under all the circumstances, and if the board finds it so it is declared an unfair labor practice for the union in question.

The Termination of Contract Clause

No contract shall be terminated or modified unless the party desiring the change serves a 60 day written notice upon the other party of such intent, offers to meet and confer with the other party and serves a 30 day notice on the Federal Mediation and Conciliation service and the proper State Mediation Agency of the existence of a labor dispute.

The parties must refrain from engaging in a strike or lockout during the 60 day period following the original notice. The failure to follow this procedure is an unfair labor practice for either side.

NATIONAL LOCK...





DESIGNED FOR A VARIETY OF USES

Extensively field-proven on commercial and domestic applications, these matched designs of chromium plated refrigerator hardware consistently "ring the bell" with users. Ideal for Reach-in Cabinets, Display Cases, Back Bars, Florists Boxes, Bottled Beverage Coolers, Draft Beer Equipment, Coin-Operated Refrigerated Dispensing Machines, Milk Coolers, Low Temperature horizontal or vertical Cabinets, Stokers and many other units of refrigeration equipment.

Ask your jobber for complete information and prices.

NATIONAL LOCK COMPANY

Prohibition of Certification of Certain Employees

Certain employees may not be certified by the NLRB. The act provides that the NLRB shall not certify a group consisting of supervisors. It further provides that no union guards may be certified if it belongs or is indirectly affiliated with a labor organization containing employees other than guards.

It further provides that any professional or craft must be given an opportunity to vote on separate representation before it is placed in a larger unit.

Filing of Certain Union Facts.

As a prerequisite to using the NLRB, a union must qualify by filing certain information and affidavits with the Board. Failure to file means that a union cannot bring an unfair labor practice proceeding against the employer, or petition for a representation election or a union shop referendum.

However, the union may still be charged with unfair labor practices and is subject to injunction, cease and desist orders, and all other forms of litigation.

The data required to be filed includes the salaries of union officers, description of union procedures, rules and regulations, financial data, and other similar information. The officers of the union, both national and local, must sign affidavits that they are not members of the Communist party and do not believe in the overthrow of the U. S. government by force or by illegal methods.

Law Should Be Followed

The new law has had and will continue to have a tremendous impact on collective bargaining. This short opinion should not be treated as an answer to all the many problems which will arise under the Taft Hartley Law. It is merely a brief survey of the present status of the Law.

The interpretation by the Supreme Court of any and all of its provisions, which of necessity must come, will help to clarify the operations and effects of the law.

Both union and employers should follow closely the provisions of the Act, with the constant guidance of their legal advisers. In interpreting sections of the Act, due consideration should be given to the decisions and precedents established by the NLRB under the Wagner Act.

The Act was passed to prevent and mitigate "industrial strikes which interfere with the normal flow of commerce". This Act is set up to avoid such strikes by providing that labor and management "recognize each others legitimate rights" and to make known to both management and labor "that neither party has any right to engage in any act or practice which jeopardizes public health, safety and interest".

If both employer and union will guide themselves in interpreting the Taft Hartley Act when negotiating a labor contract, by heeding the spirit of the law instead of the letter of the law, peace and harmony between labor and management will prevail and both the employees and employers are sure to benefit therefore.

on your next job choose a

a condensing unit for every installation

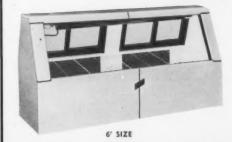
Mills Industries, Incorporated • 4100 Fullerton Avenue • Chicago 39, Illinois

LINGLE

REFRIGERATION EQUIPMENT

The New Lingle Meat Display Case

A meat display case with exclusive Lingle features.



Compare the price . . . You will agree that this case does have a definite appeal to your customer in dollar for dollar value.

Available in 6, 8, 10, and 12' double duty models.

Lingle Walk-in Refrigerators, Dry Beverage Coolers, Meat Display Cases, Cold Storage Doors and Sectional Reach-in Refrigerators. See your Wholesale Jobber in your territory or write to the Kansas City office for complete sales information.

LINGLE REFRIGERATOR COMPANY, INC.

95th & Troost, Box 7111 Country Club Station, Kansas City 2, Mo.

PREMIER KIT

RECONDITIONS . . Recessed or Flush Valve Ports in MINUTES!



Yes, this amazingly lowpriced kit makes it easy for any experienced refrigeration service man to grind, finish and test recessed or flush valve seats (either piston or flapper jobs). Speeds up work, saves buying new parts. No more tiresome hand-lapping.

IN USE BY

The Army and Navy, Refrigeration Trade Schools and Service Organizations in United States, Canada, England, South Africa, Cuba & Hawaii and many other countries.

ANOTHER PREMIER PRODUCT

The Premier Lapping Blocks. Two 6" Lapping blocks in hinged felt lined wood box for safe keeping.

A MUST FOR EVERY FIRST CLASS SHOP

891 Park Avenue



See this time and money saving tool at your Jobbers

THE PREMIER COMPANY

Baltimore 1, Md.





MORE PRODUCTS ON DISPLAY MEAN GREATER SALES

FEDERAL MODEL 1089

NEW Federal Self-Serve Reach-In gives you most display for your money . . . 941/2 sq. ft.

Here's eye-appeal for streamlined selling! Easy working rubber doors, fluorescent lighting, metal clad baked enamel exterior. . . . Uses small space for large display, for dairy products, bottled goods, **F**ederal and all kinds of produce.

FEDERAL REFRIGERATOR MFG.CO.

WAUKESHA . WISCONSIN ASK ABOUT DESIRABLE TERRITORIES STILL AVAILABLE

. . . WRITE FOR DETAILS

NO SWEAT SHOP! ...

Continued from page 33

ground floor level and consists of one floor only, with a flat roof and a multitude of skylights. Under normal operating conditions some 400 persons are employed in this single room, more than double the number of office personnel. All of these factors combined to create a substantial heat load

Normal calculations were employed to determine the cooling capacity required, according to Lowman, and it was determined that 17 5SCA 5-ton Airtemp packaged units would do the job. As in the office, some of these units were equipped with steam coils so that all the benefits of year-rounud air conditioning could be provided.

Unique Design Conditions

The unusual layout of this sewing room made possible the use of a rather unique method of handling the cooling load. As indicated on the plan view of this room which accompanies this article all sewing machines and inspection tables are ranged along the full 375-foot length of each side wall, and it is in this area that the great bulk of the employees are concentrated.

The wide center aisle which also runs the full length of this room is utilized primarily for the storage of bulk materials to be processed and as a space in which to stock the completed garments until they can be removed to the shipping room. Consequently, there is only occasional employee traffic in this area.

"Spill Over" Air Used

Because of this unusual layout, the 17 room coolers were installed along each side wall in staggered alignment, with nine units on one side and eight on the other. It was calculated that arranged in this way these units would effectively cool the occupied area along each side of the room, and that sufficient cooling would be provided in the center aisle through "spill over" from the air conditioned areas to satisfy the light occupancy requirements of that aisle.

Inasmuch as some employees would continually be working within





ALL sections of the new General Electric Central Plant Air Conditioners can pass easily through a standard 30" door... the two smallest models completely assembled. This compactness allows a wide choice of location for the unit. It means time and money saved in installation, too.

28 different arrangements

Both vertical and horizontal models are designed on the building block principle—12 different vertical arrangments—16 horizontal arrangements. They cover a cooling range from .8 to 58 tons . . . and a heating range from 28,100 to 1,310,000 Btu's per hour.

All units are pre-fabricated, pre-engineered and pre-matched to assure fast assembly if shipped in sections. The welded sheet-steel construction is rigid, light in weight, making it easy to handle, inexpensive to ship.

For a smoother, quicker, less expensive air conditioning job, get full information from your local G-E air conditioning representative today. Or fill in coupon below.

GENERAL SELECTRIC

Better Air Conditioning



chrome alloy steel
• Special "Dura-Temp" heat treated for

maximum strength

• Famous HINSDALE "Satin-Tone" Finish Makes Tools Rust-Proof

• Packed in heavy metal case. 8%" x 5%" x 1%" O'78 X 3'74 X 1'78

A complete refrigeration ser-ica kit containing "important" sockets needed D₇ the refrigeration repairman to handle every repair job. All tools are precision built and engineered especially for ease in handling exacting refrigeration repair problems. Includes 19 HINSDALE super quality Square Drive and Packing Gland sockets—size 9'32" to ½". Available in either 9'32" or ¼" drive. Also short Bew Wrenches, and handles. All packed in heavy metal case, 8'56" x 534" x 134". Order TODAY.

With Your Order, Ask for FREE Illustrated Descriptive Literature

HINSDALE MFG. CO.

DEPT. 534-K, 1728 W. Walnut St., Chicago 12, Illinois

just a few feet of the units themselves. each unit was provided with outlet grilles in each side of the cabinet as well as in front in order to obtain added air volume without objectionally high velocity. To further control the distribution of the cooled air supplied by these units, two short, curved supply ducts were installed in the top of each cabinet.

Another important feature of this sewing room installation is its provision for zone control. Each unit is thermostatically controlled so that if desired its cooling outupt can be regulated to suit the workers in that immediate area. More important still. the flexibility of this packaged equipment installation makes it possible to cool only such portions of this huge room as may be utilized during period of slack production and employ-

Insurance against breakdown of the entire system also is an important advantage of this unitary installation.

Proof of the effectiveness of this air conditioning installation, which is believed to be the first in any factory of this type, is the fact that during the summer of 1947, one of the hottest on record in Cincinnati, not one hour was lost because of intolerable working conditions.

Commenting on this installation, Fashion Frock's president Meyers predicted that the cost of the installation would be saved within two years. He pointed out that while it was difficult to compute any exact increase in employee efficiency because of the continually fluctuating production problems occasioned by frequent changes in models and styles, he was personally convinced that this investment in air conditioning had been one of the wisest he had ever made.

Still another advantage of the air conditioning installation was pointed up by E. F. Dinan, the garment company's director of sales promotion. "Labor," he explained, "at least good labor, is still hard to get, and we use our air conditioned plant as a lever to ease our employment problems. We always mention it prominently in our "help wanted" ads in the newspapers, and we tie it in with our radio program, too, especially during the hottest days of the year, by mentioning the actual temperature on that day in our air conditioned plant."





Mineraliac Cable, Conduit and Messenger Hangers are STEEL. Easier, quicker to install; permit speedy, compact wiring; economical. Also in Everdur. . . Porcelain insulating Bushings available.

Ilfly STEEL Clips (Pipe-clamp) require only can screw, nail or bolt; rib-strengthened; for hanging pipe, conduit, BX cable, mounting coils, etc. Millions in use.

see Steel Straps for Messenger-cable serv-ices on outlet boxes; may be used in conjunction with hangers.

Order from your Electrical Wholesaler. Send for literature.

MINERALLAC ELECTRIC COMPANY 25 North Peerla Street



UNIVERSAL COOLER

First!
TO PARTS
JOBBERS
WITH

A COMPLETE LINE OF HERMETICALLY SEALED AND OPEN TYPE CONDENSING UNITS

Six hermetically sealed models. Capacitor type in 1/4, 1/3 and 1/2 H.P. (Kit of bar type legs for remoting these models available) Split phase type with valves in 1/8 and 1/6 H.P.

Plus

Open type remote units both air and water cooled. From 3/4 H.P. through 15 H.P.

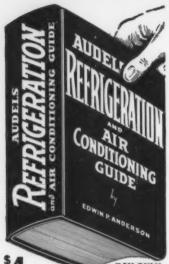


UNIVERSAL COOLER

Automatic Refrigeration Since 1922

DIVISION INTERNATIONAL DETROLA CORP., MARION, OHIO

Ask to See It



PAY ONLY
S1 A MO.

AUDELS REFRIGERATION & AIR CONDITIONING GUIDE Answers Your Questions on Baile
Principles, Servicing, Operation and Repair of
Household Refrigeration—Special Refrigeration
Inits—Commercial and Industrial Refrigeration
—Air Conditioning Systems—Over 1280 Pages,
46 Chapters, 700 Illustrations—Diagrams Including data on Freon, Quick Freezing, Lockers and
Water Coolers. A new timely book containing
practical facts and figures for Better Service.
Easy to understand and Handy Ready Reference.
Step up your own skill with the facts and figures of
your trade, Audels Mechanics Guides contain Practical Inside Trade Information in a handy form.
Pully illustrated and Easy to Understand. Highly
Endorsed. Check the book you want for 7 days
Free Examination.

Send No Manney. Nothing to pay postman.

--- CUT HERE --AIL ORD

AUDEL, Publishers, 49 W. 23 St., NEW YORK Please send me postable for FREE EXAMINATION beeks marked (x) below. If I decide to keep them I agree to mail \$1 in 7 Days on each book ordered and further

H	berwise, I will return them.
٦	REFRIGERATION & Air Conditioning 1280 Pes &4
٦	REFRIGERATION & Air Conditioning, 1280 Pgs. \$4. ELECTRIC MOTOR GUIDE, 1000 Pages 4. ELECTRICIANS EXAMINATIONS, 250 Pages . 1.
٦	ELECTRICIANS EXAMINATIONS, 250 Pages . 1.
٦	WIKING DIAGRAMS, 210 Pages
٦	ELECTRICAL DICTIONARY, 9000 Terms 2.
	ELECTRICAL POWER CALCULATIONS, 425 Pgs. 2. ELECTRONIC DEVICES, 216 Pages 2.
	ELECTRONIC DEVICES, 216 Pages
	RADIOMANS GUIDE, 914 Pages HANDY BOOK OF ELECTRICITY, 1340 Pages 4 ELECTRIC LIBRARY, 12 vol., 7000 Pgs., \$1.50 vol.
	HANDY BOOK OF ELECTRICITY, 1340 Pages 4.
	ELECTRIC LIBRARY, 12 vol., 7000 Pgs., \$1.50 vol.
	UIL BURNER GUIDE, 384 Pages
	POWER PLANT ENGINEERS Guide, 1500 Pages. 4
	AUTOMOBILE GUIDE, 1540 Pages AUTOMOBILE GUIDE, 1540 Pages DIESEL ENGINE MANUAL, 400 Pages 2 BLUE PRINT READING, 416 Pages 1 BLUE PRINT READING, 416 Pages SHEET METRAL WORKERS Handy Book, 386 Pgs. 1 SHEET METAL WORKERS HANDY BOOK, 386 Pgs. 4 SHEED METAL WORKERS OF AUTOMOST, 1100 Pgs. 4
	DIESEL ENGINE MANUAL, 400 Pages 2
	WELDERS GUIDE, 400 Pages 1
	BLUE PRINT READING 416 Pages 2
	SHEET METAL WORKERS Handy Book, 388 Pgs. I
	SHEET METAL PATTERN LAYOUTS, 1100 Pgs. 4
Ц	MATHEMATICS & CALCULATIONS, 700 Pgs 2
	MACHINISTS Handy Book, 1600 Pages 4
	MECHANICAL Dictionary, 968 Pages 4 MARINE ENGINEERS Handy Book, 1280 Pages 4
_	MAKINE ENGINEERS Handy Book, 1280 Pages 4
	MECHANICAL DRAWING GUIDE, 160 Pages 1 MECHANICAL DRAWING & DESIGN, 480 Pgs. 2 MILLWRIGHTS & Mechanics Guide, 1200 Pgs. 4 CARPENTERS & Builders Guides (4 vols.). 6
	MECHANICAL DRAWING & DESIGN, 480 Pgs. 2
	CAPPENTERS & Mechanics Guide, 1200 Pgs. 4
-	PLUMBERS & Steamfitters Guides (4 vots.) . 6
H	MACOME & Duilders Cuides (4 vots.) . 6
H	MASONS & Builders Guides (4 vols.)
H	MASTER PAINTER & DECORATOR, 320 Pgs. 2 GARDENERS & GROWERS GUIDES (4 vols.) 5
H	ENGINEERS and Mechanics Guides
4	Nos. 1. 2, 3, 4, 5, 6, 7 and 8 complete 12
	invo. a. a, v, v, v, r and o comprete 14

GARDENERS & GROWERS GUIDES (4 vol ENGINEERS and Mechanics Guides Nos. 1. 2, 3, 4, 5, 6, 7 and 8 complete Answers on Practical ENGINEERING ENGINEERS & FIREMANS EXAMINATIONS	9.9
Name,	
Address	
Decupation	
Employed by	R-22

NARC ON LICENSING . . .

Continued from page 37

"Let us take a look at a few of the fields in which licensing, whether by city, county, or state, is in effect.

"The medical profession, dental and legal professions, cosmetologists, beauticians, barbers, pharmacists, restaurateurs, grocery, meats, drug manufacturers, stationary and marine boiler operators, practically every trade and profession has its own regulations.

"We recognize the medical profession as perhaps the ultimate in man's forward march of progress, yet medical men are closely regulated. Who, then, is the one to say that the air conditioning and refrigeration contractor is above and beyond all need for regulations, and that any one who cares to designate himself as a contractor and operate out of a satchel at the expense and risk to life and safety of the consuming public is free to do so?

"If a doctor were not licensed, we could all buy surgical paraphernalia and drugs, hang out a shingle, and call ourselves "Doctor".

"NARC cannot believe that the manufacturers of these surgical instruments and drugs would look with pride on that sort of a condition, nor do we believe that the manufacturer of air conditioning and refrigeration equipment would any sooner see their products placed in the hands of unqualified men to install and service.

"It is not the purpose of NARC to fetter competition, but rather to promote a healthy state of free enterprise with maximum protection to the consuming public and a sense of security to the responsible, dependable, and qualified business man.

"NARC has stated before, and we now reiterate, that we firmly believe this is an industry job and we heartily welcome the cooperation of all groups in the current problem."

DISTRIBUTES DEEPFREEZE

The R. B. Wall Co., 56-58 East Union St., Wilkes-Barre, Pa., has been appointed distributor in the Wilkes-Barre and Scranton territories for Deepfreeze division, Motor Products Corp.

BUY FROM YOUR REFRIGERATION WHOLESALER

old Cement

NEW PRODUCT

HOLDS CORK Instantly

Trowel on cold - place immediately - cork stays put. After a few hours curing, cork holds a pull of hundreds of pounds.

Holds cork to wood, concrete or cork. Saves labor—ideal for new jobs and for insulation patching.

Developed by the makers of -Laykold Insulation Adhesive, Weathercoat and Hydropel.

Ask our nearest office for details and a demonstration.



AMERICAN BITUMULS COMPANY

BALTIMORE J. MD. 200 BUSH STREET . SAN FRANCISCO 4, CALIF. E. PROVIDENCE 14, R. I. PERTH AMBOY, N. J. WASHINGTON &. D. C.

COLUMBUS 15, OHIO BATON ROUGE 2, LA. ST. LOUIS 17, MO.

DAKLAND 1. CALIF TUCSON, ARIZ SAN JUAN 23, P. R LOS ANGELES IINGLEWOODS, CALIF

COMMERCIAL Pefrigerator

While The Refrigeration Industry is not the official publication of the National Commercial Refrigerator Sales Assn., the Editors assign this space each month to the association. The information below is furnished, for the most part, by the offices of the association and its local affiliates.

Government Proves Value Of Vegetable Cooling

Thanks to the U.S. Government, commercial refrigerator dealers now have a potent new argument to back up their sales stories on the benefits of proper cooling for fresh vegetables.

If prepackaged fresh vegetables are kept at a temperature of 42 F during marketing operations, they will keep from two to three times longer than if no attention is given to refrigeration, say transportation and storage specialists of the Bureau of Plant Industry, Soils, and Agricultural Engineering, of the U.S. Department of Agriculture.

Most recent evidence they have on his score comes from a study conducted with funds from the Research and Marketing Act in which broccoli, brussels sprouts, and cauliflower were vrapped in various types of transparent film shortly after they were narvested. Then they were tested inder market conditions.

One batch was held at 67 F, which

approximates store room temperature in the average market during fall and winter months. Another batch of the vegetables was held at 42 F, which is about the temperature of the ordinary home refrigerator. Non-wrapped lots were also tested at these two tempera-

Results showed that some types of plastic wrappings are more satisfactory for fresh vegetables than others. All of the wrappings afforded some protection of quality. The nonwrapped lots lost weight rapidly.

The widest variations in quality, however, resulted from differences in temperature at which the vegetables were held. At 67 F none of the prepackaged vegetables was salable after 4 days. But at 42 F the packaged cauliflower remained fresh in appearance and satisfactory in flavor for 8 days. And the brussels sprouts and broccoli remained in a salable condition for 11 days.

DEALERS SOUGHT FOR PURO WATER COOLERS

Puro Filter Corp. of America, nanufacturer of "Puro" water coolers for more than 50 years, has inugurated a totally new sales policy inder which it is inviting operators n the refrigeration and air conditionng field to apply for dealerships to ell and service this product in many

Previously the Puro organization lways has handled its water cooler ne directly, and has maintained its wn service organization. The new lan will not affect the company's irect dealing policies in New York nd other principal cities where the company maintains established factory branches.

Dealers in new territories, however, may buy the Puro line for outright sale or, if they prefer, they may offer a rental-service contract similar to the long tested Puro plan.

Officials of the company stated that Puro is particularly interested in having the new dealers operate on a service basis if they are qualified to do so and have a capable service staff and adequate facilities. The manufacturer is prepared to assist such dealers with service manuals, as well as with advertising and promotional aids, wherever the scope of the local operation warrants such help.



Costa's Ice Cream Plants-Old and New-**Both Equipped with**



Twenty-two years ago, Costa's Ice Cream Co. began using Frick Refrigeration in a small plant at Metuchen. N. J. The business prospered.



Today Frick Equipment carries the entire cooling load at the Company's

Old Plant of Costa's les magnificent new Cream Company,



plant, one of the finest in existence, adjoining U. S. Highway No. 1 at Woodbridge,

Super-modern New Plant N. J. at Woodbridge, N. J.



Frick Refrigeration is helpina thousands of businesses to grow. Perhaps you, too, could Air Conditioned Process Room is Super-efficient. be using it?



Three Frick Ammonia Compressors Give Dependable Refrigeration,



CONQUER YOUR STAIRWAY PROBLEMS



With the KEEN 27 lb. adjustable appliance MOVER

—the world's lightest adjustable appliance mover, exactingly designed and quality built of magnesium - . enly 13½ pounds of added weight per man. All rubber wheels, repadding on all bearing areas. Handle with 3" ballbearing swivel casters, for easy leading on delivery tracks. Comes equipped with one 2" 2-sty 15-feet web strap with soff tightening leverage buckle.

KEEN manufactures a complete line of appliance moving devices—many of them NEW

Send for our Illustrated Catalogue!

KEEN MFG. CO.
40 DOGWOOD HARLINGEN, TEXAS

GRUNOW AUTHORIZED DEALERS ARE MAKING MONEY!

Build up your new box sales now with Grunow Service Business I

Write for Grunow Authorized Service in your territory.

GRUNOW

AUTHORIZED SERVICE, INC.

4313 W. Fullerton Ave., Chicago 39, III.

Slash the High Cost of Eating FOR YOUR CUSTOMERS BEN-HUR FARM AND HOME FREEZERS Every one among thousands of BEN-HUR owners will tell you that his freezer is his most profitable investment-it more than saves its cost by cutting the family's food budget-10 to 50%. Here's your greatest opportunity to make hosts of friends—and sales. Show your pro-spective customer that every dollar he spends for the purchase of a BEN-HUR Farm & Home Freezer comes back to him - in the form of reduced food costs, food savings, time savings in meal preparation, better, more healthful meals all the year around. There's a BEN-HUR Freezer for every family's needs —6, 9, 12.5, and 18 cubic foot sizes. A few territories still available. Write! Compare them all ... and you'll choose the Nationally-Advertised BEN-HUR Freezer Line. BEN-HUR MFG. CO., Dept. R 634 EAST KEEFE AVENUE . MILWAUKEE 12, WISCONSIN FARM and HOME FREEZERS

ARTKRAFT HEADS REELECTED

All directors and officers of Artkraft Mfg. Corp. were re-elected at the annual stockholders meeting held at the company's offices in Lima, Ohio.

Directors re-elected were: R. R. Trubey, Morton L. Clark, A. R. Grierson, R. H. Money, and George J Madill, with Harold Moseley also added to the board.

Directors then reorganized by electing the following officers: Trubey chairman of the board; Clark, president and treasurer; Grierson, vice president in charge of manufacturing; Money, vice president in charge of engineering; Madill, vice president and works manager; Moseley, vice president and assistant treasurer; at torney Melvin C. Light, secretary, and Alice Bishop, assistant secretary

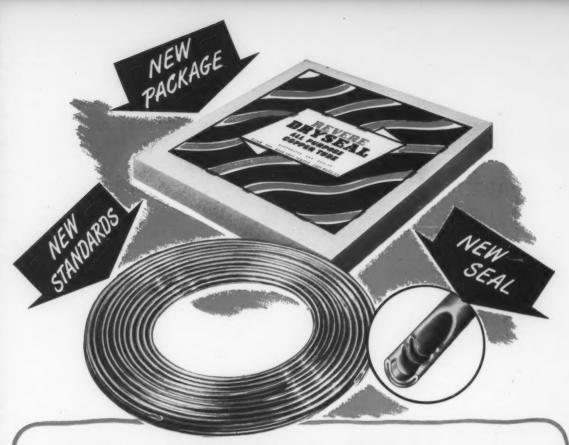
SILVER-STAHL COMPLETES 5-POINT EXPANSION

Accomplishment of five objective in the current expansion program of Silver-Stahl Corp., San Francisc commercial refrigeration distributor has been announced by Nat Silver stone, president of the firm.

These accomplishments are:

- Opening of a new sales an showroom for the firm's enlarged re tail organization. Ample office spad and classrooms for sales training als are provided.
- Appointment of E. Van Fleet thead the retail organization, which covers the San Francisco metropolitan area.
- 3. Appointment of William Staffor as wholesale sales manager for th firm's entire outside territory. Stat ford also has charge of the company dealer organization.
- 4. Appointment of East Bay Refrigerator & Fixture Co. as exclusive distributor for the Super-Cold ling in the Oakland area and the East Batterritory. The East Bay firm is headed by Al Liable.
- Operation of a retail concessio in the San Francisco store of R. H Macy & Co. for the new Selb 4-cu. f apartment house refrigerator.

BUY FROM YOUR REFRIGERATION WHOLESALER



NOW-MORE THAN EVER . . .

the important thing to know about refrigeration tube is

IT'S REVERE!

Until now, all Revere Dryseal Copper Refrigeration Tube — regardless of diameter — has been made with an .035" wall. Now Revere is the first to offer you refrigeration tube in new, more economical dimensional standards.

In addition, the new Revere Dryseal Tube has a doublegroove mechanical seal. It is compact enough to pass through any opening large enough for the tube itself. It permanently keeps the interior of the tube clean and bone dry.

Look for the new red and blue Revere Dryseal package. It protects the tube, takes up less storage space and is easier to unpack.

Revere Dryseal Tube comes in sizes from 1/8" to 3/4" O.D. and is packed two 50-foot coils to a package.

Ask your Revere Distributor for all the new facts on the new Dryseal—the easy-to-bend copper refrigeration tube that assures you of fine quality in every length you buy.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, New York

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; New Bedford, Mass.; Rome, N.Y.—Sales Offices in Principal Cities.



Watch Your Profit Margin!

PART 1

PROFIT margins in the refrigeration supplies wholesaling field today are steadily narrowing, so if you want to stay in business as a wholesaler watch out for the customer who works on you for an extra discount. or for a price concession of one kind or another, for it just isn't in the cards.

On the other hand, greet with open arms the supplier who works out a schedule to increase your margin of profits this year, because, Brother, you sure are going to need it!

Yes, you are going to need every penny of profit that can be squeezed out of existing profit margins, good business practices, and capable business management.

Back in the good, old days, say in 1941, the wholesaler's margins of profit were considered ample to provide a reasonable net profit and return on the capital invested in the business. Since that time, however, many changes have occurred to radically change this picture.

First, the war brought shortages of

materials for civilian use. Next. extreme material shortages were caused by high post war demand for goods, slowing the return of finished products to the market. Now, supply is beginning to catch up with demand. Inventories are building up. Speculative buying, fed by scarcity of goods, has practically disappeared.

Competition in the wholesaler's ranks has grown, in the meantime, by leaps and bounds. Cost of living, cost of doing business, cost of everything has skyrocketed to a point estimated at close to 175% of normal. .

First the wholesaler's volume of business suffered due to the war and general scarcity of goods. Then competition entered the picture, continuing to retard business volume in many locations. During all this time the



cost of doing business has steadily increased.

Today the refrigeration wholesaler generally, with a gradual diminishing volume of business and a serious increase in cost of operation, faces an almost hopeless task, to operate his business in the black and continue to remain in business.

NEW TOOL DISPLAY RACK

Armstrong-Bray & Co. announces a new package unit which it has designed for a display board and tool rack for six of the most popular "Steelgrip Pullers" used for the removal of gears, wheels and bearings. This board can be used either as a counter or wall display, or for a shop tool rack, and so is of value to either jobber or user.

members offer you

It's really a pleasure to do

business with a REWA mem-

ber-all of his dealings with

you are clean cut, ethical

and backed by a reputation

for integrity. This sound

operating policy wins and

hold customers. It is a quar-

antee of complete satisfac-

tion regardless of the size of

your account.

- Sound, helpful engineering advice on products.
- 2. Local warehouse facilities with ample stocks to serve the trade.
- 3. Intelligent, competent sales representation, plus economy in handling credits, adjustments, etc.
- 4. Catalogs, advertising, and other promotional activities directed toward keeping the trade informed as to new prod-ucts, changes in design, prices, etc.
- 5. Progressive, business-like distribution contributing toward the stability of the industry.
- 6. Sound operating policies based upon ethical trade practices.

180 MEMBERS

MAINTAINING

OVER 300 CONVENIENT

OUTLETS

BUY FROM A MEMBER 920 East McMillan St., Cincinnati 6, Ohio H. S. McCloud, Executive Secretary

74



-It's Like Having Our Plant in Your City!

Cour Kerotest Wholesaler is our representaive in your locality as truly as a branch of ur own plant. He carries a comprehensive tock of the entire Kerotest Refrigeration Valve and Fittings line and he is up-to-date in the latest "know-how."

ook to your Kerotest Wholesaler to keep you osted with the latest developments in refrigration valves and fittings—for new technical lata or advice and—for immediate supplies of the latest and finest in valves and fittings—KEROTEST.

Take advantage of the prestige Kerotest lends to your jobs. Every installation . . . every replacement made with genuine Kerotest Valves and Fittings identifies you as a craftsman who knows and uses the best. For every refrigeration problem . . . for every need . . . see your Kerotest Wholesaler! Kerotest Manufacturing Company, Pittsburgh 22, Pa.

KEROTEST



Check with Ranco

- Specialists in Refrigeration
- More Ranco Controls in Use
- Dependability
- Less Stock to Carry
- Greater Customer Satisfaction
- More Profit for You

The maximum sensitivity and positive action that characterize the Ranco beryllium copper power element are directly traceable to the precision craftsmanship and quality materials that mark this exclusive Ranco element. Each joint is silver-soldered to insure absolute operating perfection and temperature accuracy within new lower limits with this new and exclusive Ranco development.

You'll find your Ranco wholesaler has the new beryllium copper power element in stock—ask to see it today. And ask, too, to check the complete line of Ranco refrigeration controls, designed and built for greater customer satisfaction through longer service life and more dependable operation. Check with Ranco first!

Ranco Inc.



World's Largest Manufacturers of REFRIGERATION CONTRO

THE SERVICE MAN'S DEPARTMENT

Here's how

Edited by Warren W. Farr

You're Not Too Old To Play With Blocks

Are you planning to build a new service shop, or remodel the one you now have? If you are, then you'd better be mighty sure that you have planned things just the way you want them before you make the first move. If you don't, chances are you'll end up by walking around your new shop muttering to yourself such phrases as "sure wish that coil cleaning rig was over nearer the wash tubs!" Or "Why didn't I think to put that

M ANY times a Norge Rollator type compressor becomes too low on oil to form a good seal inside and pump a vacuum so that oil can be sucked in.

If the compressor is bounced up and down on the springs, enough of the oil that is left in the compressor will seal the pump so it will pump enough vacuum to suck in oil.

Melvin Lembke, Detroit Lakes, Minn.

work bench over there where it would be out of the way?".

One sure way to save yourself all that painful "second guessing" is to start out by drawing a good sized floor plan of the area which your shop is to occupy. Then list every single fixture or permanent piece of equipment which you intend to have in the shop. Next step is to cut out a block of wood to represent each piece of equipment, making sure that the measurements of each piece correspond exactly to the scale of your floor plan. (If you want to make it even simpler, plain pieces of cardboard will serve the same purpose.)

Now you're all set to "play house" by juggling around these blocks, each of which should be properly identified, until you are certain that you have just the arrangement which will best suit your needs. When you're sure you've made your final decision (you'll probably change your mind

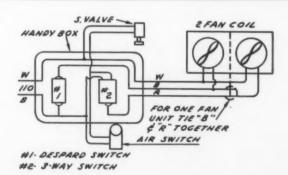
a dozen times in the process), glue each block down into its proper position on the floor plan and there you have it—a perfect scale template of what your new shop will look like!

If You're Working With Food Stores

Not long ago a manufacturer's man who is working almost exclusively with retail food stores told us that the big problem with all of them is the maintaining of a sufficient volume of business to hold a satisfactory margin of profit under today's inflated price conditions.

If you're working with food stores in your community, here's a chance for you to be of real service. Most manufacturers of commercial refrigeration equipment for retail markets have store planning services, or are in close touch with latest developments in alert food merchandising. Equip yourself with some of this information, and work with your local food merchants; anything you can do to help their business operate more efficiently is bound to help your business in refrigeration.

There's one very good way to analyze a store and that is to watch the homemaker as she shops there. You'll note she has some very set buying habits. How well does the store lend itself to these buying habits? Is the store layout as good as it should be? Is the merchandise properly displayed? Are perishables properly refrigerated? Study the shoppers, and you'll get the answers; you'll get some extra business too.



E NCLOSED is a sketch of a wiring diagram I have just worked out. The main object of this hookup is that one of the fans of a twofan coil can be made to run all the time or only when the thermostat air switch calls for refrigeration.

This is used mostly in the winter when the load on the walk-in cooler is considerably lower than in the summer. The same idea can be used for one-fan blower coils, where there is no need for the fan to be on during the off-cycle. Any time when full capacity is needed or the coil needs defrosting, by simply

switching the three-way switch, the fan will run all the time, without interruption.

This hook-up can be used where different temperatures are required in several different walk-in coolers on the same condensing unit, or where the unit is in a cold basement and will not start with an ordinary pressure switch set to maintain a defrost cycle.

I know this idea will be helpful to many service men and contractors who are running into these conditions.

Harry Haaser, Fremont, Ohio



CYCLONE ROTARY BIT

Thousands in use today by contractors, electricians, plumbers, sign hangers, maintenance men. Drills 4 to 8 times faster, easier. Stays sharp longer. Lasts 50 times longer than ordinary drills. No Noise. No Hammering.

Fits standard portable electric drill, hand brace or drill press. Comes in handy kit of six popular sizes or in individual package. At your hardware store or jobber's.

"IT'S CARBIDE TIPPED!"

New England



SANITARY Electric Refrigerators for trailer homes and city apartments will operate efficiently, when built in because they are specially engineered. Equipped with nationally known condensing unit. Available in 4 and 6 cu. ft. net sizes at attractive prices. The market is all around you and it's ready for the harvest, Write for detailed information.

SANITARY REFRIGERATOR CO. FOND DU LAC WISCONSIN

ABOUT PEOPLE . . .

Continued from page 40

member of Task Committee of War Food Administration. Pendergast's appointment reflects Hupp Corp's. increasing interest in the refrigeration industry, according to president R. S. Geddes, and is a further step in the development and marketing of Hupp products under the Hupp name. Home freezers and frosted food display cases will be the initial products of Hupp's refrigeration program.

Norge Div., Borg-Warner Corp., has realigned and added to its field staff. C. H. Alden, formerly west coast district representative, has been made midwest regional manager with headquarters in Chicago. He will be assisted by Russell F. Cates and Charles Marvin, district representatives. J. W. Webster, who was acting regional manager in Chicago, has been made central regional manager and will move his headquarters to Detroit. He will be assisted by W. C. Gordon.

George E. Roepke has been appointed sales representative of the



Houston office of Marlo Coil Co. Roepke was in charge of sales engineering for the Electrol Co. in St. Louis before working with the development and engineering of refrigeration

controls for Alco Valve Co. He is a member of the A.S.R.E. and the Engineer's Club of St. Louis.

O. E. "Steve" Stevens has been appointed representative for Remco, Inc. in the southeastern states, including Virginia, North Carolina, South Carolina, Georgia, Florida, and eastern Tennessee. For the past nine years Stevens has been a direct factory representative of Dayton Rubber Co. His headquarters will be at 300 Keswick Avenue, Charlotte 6, North Carolina.

Robert M. Seepe has been ap pointed manager of hair filter sales for Wilson & Co., Inc. He succeeds A. C. Andresen, who has resigned. Seepe will make his headquarters at the firm's general offices in Chicago.

John J. Noonan of John J. Noonan & Co. has been appointed dis-



tributor in New York City for the line of ice cream cabinets, frozen food cabinets, and home freezers manufactured by Schaefer, Inc. Noonan has been active in the ice cream and soda

fountain field for the past 25 years. He recently formed his own company to distribute this type of equipment, specializing in complete store arrangement.

James J. Gavigan, has been appointed New York City factory representative for Wilson Refrigeration, Inc. Gavigan's sales territory will include all of metropolitan New York, Long Island, and Westchester County. President of James J. Gavigan & Co., Inc., he has been identified with the refrigeration field for many years.

Melvin O. Buehring has been appointed sales manager of Simpson Electric Co. to succeed the late George M. Koch. Buehring, who handled factory expediting and priority work during the war, had been an assistant to Koch since that time. Theodore Franks has been named to assist Buehring.

H. P. Peterson, formerly chief engineer of Bush Mfg. Co. and more recently a consultant in refrigeration at Manchester, Conn., has become associated with Cecil Boling Co. as representative in the Philadelphia area handling the products of Bush and of Heat-X-Changer Co. During the war Peterson had an active part in the development of aircraft heat transfer equipment and other specialized material.

SPOI Air Co Commercia Insta

SPORLAN PRODUCTS

are BETTER
for both
Air Conditioning and
Commercial Refrigeration
Installations

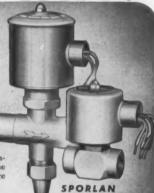
and HERE is WHY!

Only SPORLAN Thermostatic Expansion Valves

can give you Peak Performance on all installations,
because only Sporlan offers you SELECTIVE
CHARGES. Each charge is designed to fit a definite condition.



You'll Get Peak Performance on every installation you make with Sporlan Distributors. The perfectly designed nozzle and conical button assure even distribution regardless of number of outlets.



Solenoid Valves, will give you Peak Performance on all installations too, because the Sportan Solenoid Coil is so well in

the Sporlan Solenoid Coil is so well insulated...so moisture proof, that it defies electrical failure.



sportan Strainers are Peak Performers too, because they are designed better... precision built to closer tolerances, and contain the best materials obtainable.

Place your next order with your Sporlan Wholesaler and get Sporlan throughout.

You'll see why
Engineers everywhere recommend
PEAK PERFORMANCE
SPORLAN PRODUCTS!

Only SPORLAN Catch-Alls can give you Peak Performance on all installations, for only the Catch-All

has a porous molded cylinder. It cannot powder! It cannot pack! It dries the refrigerant to an extremely low end point. A point so low that any remaining moisture is absolutely harmless. Only SPORLAN
offers you the
Solenoid
Pilot Control,

a patented control, a patented control that gives Peak Performance on every installation where large solenoid valves are ordinarily used. Cost less than large solenoid valves to buy... only one size and type to stock... cost less than large solenoid valves to install.



SPORLAN VALVE CO.

7525 SUSSEX AVENUE ST. LOUIS 17, MISSOURI

AUGUST, 1948

GOES YOUR COMPRESSOR OIL BUSINESS



When compressors are kept <u>clean and efficient</u> by lubricating with Texaco Capella Oils

AIR conditioning and refrigerating compressors—all types, all sizes—stay clean and run more efficiently when lubricated with *Texaco Capella Oils*. That's why they're business builders for distributors, dealers and service engineers alike.

Texaco Capella Oils are extremely stable, moisture-free, and non-reactive with refrigerants. They are highly resistant to gumming and sludging and have very low pour tests. You can get Texaco Capella Oils in any needed viscosity—in convenient 1-qt., 1-gal., and 5-gal. sealed containers.

Leading compressor manufacturers approve *Texaco Capella Oils*. Take advantage of the opportunities they offer for building profitable compressor oil business. The Texas Company, 135 East 42nd Street, New York 17, N. Y.

FREE LUBRICATION GUIDE—New edition. Lists make and type of compressor and refrigerants in 64 Electric Refrigerating Units and 39 Air Conditioning Units. Shows recommended grade of Texaco Capella Oil for each. Use guide as wall chart or bind into service manual.



TEXACO Capella Oils

OR ALL AIR CONDITIONING AND REFRIGERATING EQUIPMEN



Tune in...Texaco Star Theatre every Wednesday night featuring Gordon MacRae and Evelyn Knight...ABC Network





Brings Quick Profits

- Every electric refrigerator owner is a live prospect.
- No installation necessary, Just plug into outlet—plug refrigerator cord into 'de-frost-it.'
- Nationally advertised in leading publications. Completely merchandised.
- Retails fast at \$9.95. Repays user by saving time, food and electricity.

ASK YOUR JOBBER OR WRITE FOR DETAILS

Paragon ELECTRIC COMPANY

1634 12th St.

Two Rivers, Wis.

TRADE MARK REGISTERED



THE PRACTICAL Refrigeration Engineering MANUAL ... by Harold Smith

XXIV.

Room Coolers

PART II

The room thermostat should operate on a 3 to 5 degree differential. Set the thermostat for a temperature 10 to 15 degrees cooler than the outside temperature in extremely hot weather when outside temperatures are above 80 F. When the outside temperature drops to 70 or 75 F. the thermostat can be set 5 degrees colder for satisfactory results, as it is only necessary under these conditions to reduce the relative humidity and handle the heat generated by human occupancy together with artificial heat found within the room.

If too great a temperature reduction is attempted—that is, reduction of 20 to 30 degrees, particularly in extremely hot weather—the equipment will be run to excess. Frequently the capacity will not be adequate to produce such wide reductions in temperature and this condition will result in continuous operation with icing up of coils, further reducing the capacity of the equipment.

USER SATISFACTION BRINGS DEALER PROFITS

An overloaded installation, or one short of required capacity, is a source of continuous trouble. Customer dissatisfaction adds to the problem. The only profitable air conditioning or refrigeration installation is a satisfactory one.

Whenever air conditioning reduces the temperature 20 degrees or more, the wide difference in temperature tends to react unpleasantly for the occupants of

the room when they go out into the higher temperatures. Frequently the colder air tends to cause unpleasant reactions for some people in the room, particularly women and older prople.

"10° COOLER INSIDE"

The real satisfactory room cooler installation lowers both the temperature of the air and its relative humidity from 10 degrees and 10% to a maximum of 15 degrees and 15%. It has a surplus of capacity which enables it to operate in cycles under normal running conditions, and to handle abnormal loads to extreme high temperatures or larger than normal crowds of people. Such an installation will be highly thought of by its owner and the people coming in contact with it. will help to sell room cooling equipment to other prospects in the market for this kind of equip-

Air conditioning is a much discussed and popular subject.

Many people believe that eventually nearly every home will be using air conditioning equipment of one kind or another. Undoubtedly there is or will be an almost inexhaustible market for home air conditioning, ranging from small individual window room coolers to large central systems cooling an entire house.

Small window type room coolers are relatively inexpensive, both in the initial cost and operating expense. These units, placed in the window and using

SALSBURY NEW HEAD OF WESTINGHOUSE SUPPLY

Election of David M. Salsbury as president of the Westinghouse Electric Supply Co. was announced recently. He has been executive vice president of WESCO, a wholly-owned subsidiary of the Westinghouse Electric Corp. since 1946, and vice president since 1944. He succeeds B. W. Clark, who has held the dual posts of president of WESCO and vice president in charge of sales of the parent company.

NEW EBCO DISTRIBUTOR

Peerless Electric Supply Co. has been named a distributor for Ebco Mfg. Co.'s Oasis line of electric drinking water coolers in the Indianapolis territory. The firm boasts 20 years' experience in the distribution of refrigeration equipment and electrical

H. E. Rasmussen is president of Peerless, Paul H. Keller is secretarytreasurer, Robert C. Price is vice president, and W. A. Shafer is sales

manager.

air as a condensing medium, cool the temperature in an individual room, lower the humidity in the air, and filter the air removing dirt, pollens, etc.

Installation, for the most part, is simple consisting of running electric lines to the condensing unit motor and fan motor, connecting a drain for condensate, and opening the valves on the unit when ready for operation.

Most room coolers do a very satisfactory job. However, the benefits are largely limited 'to the room in which the unit is located. As air-cooled type conunits are frequently densing used with these units, no complicated water supply and drain lines are needed and there is no water expense connected with the operation of the equipment.

The window type cooler is the most simple and the lowest priced unit for home use. Consequently the large volume sales will naturally fall in this type of merchandise. Customers renting apartments are particularly in favor of this type of equipment, inasmuch as it can be quickly and easily moved from one location to another.

RELIEF FROM ALLERGIES

People suffering from allergies, such as hay fever or rose fever frequently secure great relief at night by installing a window unit in the bedroom. The filtered air is largely free of the pollens which irritate the membranes, thus causing the trouble. The sufferer is able to sleep with a minimum of irritation and discomfort.

Each independent refrigeration engineer should give consideration to the market for window air conditioning room coolers. A nice market already exists. This market should continue to grow as time goes on and people learn of the pleasure and

comfort which may be had through the use of these units.

Now is the right time to make contacts and start handling this kind of merchandise. By getting started in the business now, relatively early, you will be able to completely establish yourself by the time the market really opens up and is big.

GET STARTED NOW!

Now is the time to get started with this activity. There are quite a number of manufacturers producing window type room coolers together with self-contained room cooler units for the home, offices and small business rooms used for various purposes.

Refrigeration engineers can correctly associate household type refrigerators, frozen food cabinets, and room type air conditioning units as logical equipment for the home. Naturally. many homes are unable to have all three of these pieces of equip-ment, but they belong in the home and publicity and sales promotion activities should be so directed as to make the householder conscious of the need and the advantages of each of these pieces of equipment.

Many will buy these items if proper effort is brought to bear. Go after this business now, while surplus money is being held in reserve for the purchase of new items which have the necessary appeal, or which offer advantages that the purchaser considers worthwhile, and which justify purchasing.

This class of business thrives on satisfied customers. Sell two or three window type coolers. If these units do a good job for the customer, get him to recommend his friends who may also be interested in this equipment. You can start an endless chain of good business by getting into this business early and working hard for results.



Distributors of FREON 11-12-22-113

Years of use in all types of refrigeration equipment have proven Eston refrigerants are superior. All are of sustained high quality with exceptionally low moisture content. Servicemen say Eston refrigerants give better performance and more efficient operation. Eston jobbers are conveniently located. Write for complete information.

In the West it's Eston for Refrigerants



OPPORTUNITIES

Classified Advertising Section

Rates: for "Positions Wanted", \$3.50 minimum, limit 25 words. For all other classifications, \$4.00 minimum for 25 words, each additional word 15c; boldface type or all capitals, \$7.50 minimum for 25 words, each additional word 20c; limit 50 words. Box addresses count as five words.

HELP WANTED

Commercial Refrigeration Serviceman, for aggressive sales and service company located in Northern Ohio, Experience in commercial and air conditioning, Union wages. Box No. 8148, The Refrigeration Industry.

BUSINESS OPPORTUNITIES

"Good refrigeration service businesss. Low overhead, fully equipped shop and truck. Excellent California location. A real opportunity for small investment. Box 8248 The Refrigeration Industry."

POSITIONS WANTED

Selected group of men, graduates of well-known trade school, desire employment in Refrigeration Field. Will travel anywhere. Qualified in domestic and commercial refrigeration. Reliable. Contact Placement Dept., Eastern Technical School, 888 Purchase Street, New Bedford, Mass.

FOR SALE

Stop Terminal Leaks in Crosley Sealed Units by using the Jiffy Terminal. Easy to install, no special tools needed, can be installed in a few minutes without removing unit from cabinet. Set of three terminals, \$4.00 or see your jobber. Detroit-Sealed-In Parts Co., 19191 Rogge, Detroit 12, Michigan.

FOR SALE—Air-cooled and Water-cooled remanufactured condensing units, ¼ up to 2 HP. Write for particulars, Edison Cooling Corp., 310 East 149 St., Bronx 51, N. Y.

SEALED CROSLEY TERMINALS. Installed from the outside in a few minutes without opening the compressor or removing unit. No special tools needed. Stops leaky terminals on F-12 units. Part no. 1020 short model—for short Crosley terminals (F-12 compressors with 4 mounting legs). Part no. 1020 long model—for long Crosley terminals (F-12 compressors with 3 mounting legs). \$5.25 set of three. Immediate delivery. Money-back guarantee SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

FREEZE COOLERS—Sectional Construction. In Sizes 192 to 5000 Cu. Ft. Cap. Lightweight, Simple To Erect, Move Or Enlarge. Suitable For Zero Or Medium Temperature Ranges. Available With Packaged Refrigeration System. Prompt Delivery. Quality Product, Moderate Price. Write for Catalog. (Refrigeration Engineering Corp.) RECO PRODUCTS DIVISION, 2020 Naudain St., Phila, 46, Pa.

ICE MAKERS—Self contained semi-portable complete Ice Plants in capacities from

250 to 2000 lbs. per day. Provide an inexpensive and convenient source of pure block and cube ice. Gasoline or electric motor driven models available, Ideal for Fishing Trade, Institutions, Restaurants, Hotels, Dairy Farms, Fish Merchants, etc. Prompt delivery. RECO PRODUCTS DIVISION, 2020 Naudain St., Phila. 46, Pa.

"EXCELSIOR BEER PUMPS—made since 1933, are again available in 2 sizes ¼ HP and 1/3 HP. Attractive prices for Dealers." Excelsior Machine Co., 2601 Kutztown Road, Reading, Pa.

FOR SALE—50 MACHINES 2 TON "TEMPRITE" REFRIGERATION MACHINES

NEW—in original crate purchased from Government \$250.00 each SEND FOR PHOTOGRAPH & DESCRIPTION

Marks Brothers Company
151 Hallet Street
Boston 24, Mass. Tel. TAlbot 5-3700

TO TEACH COOLING

Charles H. Burkhardt has been appointed to the faculty of Walter Hervey Junior College, New York City. He will be an instructor in refrigeration and air conditioning engineering.

BOOK REVIEW

Title: The Refrigeration Serviceman's Manual Author: Edward R. Magnus and Grace D. Marlott

Publisher: Wilcox & Follett Co., Chicago Price: \$5.00

Edward R. Magnus, a practicing consulting engineer in the refrigeration field, has combined his knowledge with the writing skill of Grace
D. Marlott, instructor of English and journalism, to produce a highly readable and usable refrigeration handbook for servicemen.

This manual is designed in anticipation of the majority of service problems which occur, and breaks down the most technical aspect of these problems to an easy, smooth flowing text, understandable to everyone.

Students and experienced men in the refrigeration field will find that the 139 drawings and 21 complete tables contained in the book's 688 pages will reduce difficult problems to their simplest point.

Content of the book has been divided into five main sections: the refrigerating system; major service operations; minor service operations; shop operations; sealed units. An appendix, complete glossary, and an exhaustive index complete this useful pocket-handbook.

ARIZONA SUPPLY HOUSE OPENS TUCSON BRANCH

Arizona Refrigeration Supplies, parts wholesaler with headquarters in Phoenix, Ariz., has opened a branch store in Tucson at 316 Sixth Street.





INDEX TO ADVERTISERS

THE REFRIGERATION INDUSTRY
AUGUST, 1948

American Bitumuls Co. American Brass Co. Ansul Chemical Co. Artkraft Corp. Theo, Audel & Co. Automatic Products Co. Cover	
	72 50 13 84 49 11
Chase Brass & Copper Co	18 54 19
Electromatic Div., Simoniz Corp	52 82
Frick Co	66
General Controls Co. General Electric Co., General Electric Co., Air Cond. Dept. Grand Rapids Brass Co. Grunow Authorized Service, Inc.	54 23 67 15 72
Highside Chemicals, Inc	27 46 61 68
Imperial Brass Co	9 46 53
Jamison Cold Storage Door Co	5 46 54
Keen Mfg. Co Kelvinator Div., Nash-Kelvinator Corp Kerotest Mfg. Co Kinetic Chemicals, Inc Kold-Hold Mfg. Co Kramer Trenton Co	72 55 75 7 6 24
Linde Air Products Co	21 65
McIntire Connector Co. Jas. P. Marsh Corp. Mills Industries, Inc. Minnerallac Electric Co. Minneapolis-Honeywell Regulator Co. Mueller Brass Co.	63 58 65 68 34 20
National Gypsum Co	51 64 78 25
Paragon Electric Co. Par Compressor Div., Lynch Corp. Peerless of America, Inc. Penn Brass & Copper Co. Cover Penn Electric Switch Co. Premier Co.	81 22 7 2 28 66
Ranco, Inc. Refrigeration Equipment Wholesalers Association Remco, Inc. Revere Copper & Brass, Inc. Rotary Seal Co.	74 59 73 62
Sanitary Refrigerator Co Cyrus Shank Co Sporlan Valve Co. Stanco, Inc. Sun Oil Co Superior Valve & Fittings Co	78 46 79 57 30 4
Temprite Products Corp	60 80
United Refrigerator Co. United States Rubber Co. Universal Cooler Div., International Detrola Corp.	69
Virginia Smelting Co	12

Your service work is easier. . because mrefrigeration valves are dependable The long-life trouble-free service of any A-P Refrigeration Valve is your first proof of A-P DEPENDABILITY. The result . . . whether on original equipment or as a replacement is thoroughly satisfied customers for you, and a boost to your reputation as a refrigeration service engineer. A-P DEPENDABILITY is no accident. A-P engineers know, before you get it, just what any one A-P valve will do and take extraordinary precautions to guarantee its dependable performance. For instance, before A-P Expansion Valve diaphragms are MODEL 207 THERMOSTATIC EXPANSION VALVE

made, a sample of the metal is tested the equivalent of 15 years' valve service. And that is only one of our many unusual "shop-proofs" of A-P DEPENDABILITY, done only to help you make more money with A-P DEPENDABLE Valves.

TOMATIC PRODUCTS COMPANY

2466 MORTH THIRTY-SECOND STREET + MILWAUKEE 10, WISCONSIN REPORT DEPARTMENT: 13 EAST 40TH STREET + MEW YORK 16, N. V.



Ad No. R-802

You reach more than 26,000

AUTHENTICATED BUYERS

WITH THE

"Certified Buying Power" PLAN

- 1 ACTIVE BUYERS
- 2 COMPLETE MARKET COVERAGE
- 3 PRODUCT INTEREST
- 4 INCREASED SALES
- 5 LOWERED SELLING COSTS

REFRIGERATION INDUSTRY'S "C. B. P." Plan identifies its more than 26,000 readers as authenticated, active BUYERS. The identity of each reader as a "CERTIFIED" buyer is validated by 52 selected refrigeration and air conditioning equipment wholesalers located in key marketing areas. These wholesalers subscribe to REFRIGERATION INDUSTRY for their active customers and best prospects. The wholesalers pay \$1.20 a year for each subscription. REFRIGERATION INDUSTRY'S more than 26,000 wholesaler-authenticated reader-buyers become more than just circulation... they represent the known potential national market for refrigeration and air conditioning equipment. This makes REFRIGERATION INDUSTRY the REAL sales link between the rofrigeration equipment manufacturer and his prospects.

REFRIGERATION INDUSTRY's Controlled Circulation Audit guarantees QUANTITY distribution by industry and by indivi-

dual. Under CCA the "CERTIFIED BUYING POWER" Plan guarantees that each reader also is an authenticated, active buyer. The refrigeration equipment wholesaler, as subscriber for his own best customers, acts as the authenticating agent.

Thus, under "C. B. P." REFRIGERATION INDUSTRY reaches more than just names, or titles, or companies . . . it reaches known, identified BUYERS. Here is the Number 1 buying audience to whom you must tell your story in '48.

Other "C. B. P." magazines published by the Industrial Publishing Company are FLOW, for the material handling equipment field, INDUSTRY and WELDING, for the welding equipment and supply field, and OCCUPATIONAL HAZARDS, for the industrial safety, health and fire protection field, and APPLIED HYDRAULICS for the hydraulic field. Send for our booklet: "The 'C. B. P.' Plan . . . A New Dimension Added to Standard Magazine Audits."

THE REFRIGERATION
1240 ONTARIO STREET.

INDUSTRY
CLEVELAND 13, OHIO.

